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TABLE OF CONTENTS PAGE IV

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INDEX TO CONTENTS

Vol. XXXV SEPTEMBER, 1942 Number 9

Page

Complications Following the Use of Sodium Diphenylhydantoinate (Dilantin) Therapy 365
Titus H. Harris, M.D.,
and
Jack R. Ewalt, M.D.,
Galveston, Texas.

Typhoid Fever 371
John Y. Battenfield, M.D., Epidemologist
Oklahoma State Health Department,
Oklahoma City, Oklahoma.

Eczema—Modern Concepts of Treatment 375
Harry Green, M.D.,
Tulsa, Oklahoma.

Urolithiasis 379
J. W. Rogers, M.D.,
Tulsa, Oklahoma.

EDITORIALS AND FEATURES

The President's Page 382

Editorials 384

Association Activities 388

Women's Auxiliary News 392

Medical Preparedness 394

Office of Civilian Defense 396

University of Oklahoma School of Medicine 398

Obituaries 398

County Health Superintendents 400

Opportunities for Practice 401

Book Reviews 402

Medical Abstracts 405

Officers of County Societies 410

State Officers and Committees xi

Physicians' Directory xii

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VOLUME XXXV OKLAHOMA CITY, OKLAHOMA, SEPTEMBER, 1942 NUMBER 9

Complications Following the Use of Sodium Diphenylhydantoinate (Dilantin) Therapy*

TITUS H. HARRIS, M.D. AND
JACK R. EWALT, M.D.
GALVESTON, TEXAS

A. Introduction.

Sodium Diphenylhydantoinate or Dilantin Sodium is the most effective anticonvulsant yet discovered by science. This preparation was developed by Houston Merritt and Tracy Putnam after a long series of animal (cats) experiments[1-2] in which they tested approximately 80 drugs for the property of raising the convulsive threshold to electrical stimulation. The drugs tested were phenyl derivatives, the experiments with this series apparently being prompted by the fact that phenobarbital is the most effective anticonvulsant of the barbituric acid derivatives now in use. Merritt & Putnam found ten of these compounds which effectively raised the threshold to convulsions in cats. Five compounds not previously considered ananticonvulsants were discovered to have a more profund anticonvulsant action than bromides or phenobarbital and further testing revealed that these preparations produced no sedative action, thus avoiding the drowsiness and lethargy which accompany the use of either phenobrabital or the bromide preparations.

Further experimentation revealed that of the five new preparations, sodium diphenylhydantoinate is most effective in raising the convulsive threshold to electric stimuli. The toxic reactions in animals were found to be minimal and transitory and the compound was then administered to the first of a series of 200 patients who suffered from one of the convulsive disorders. The first reports on the use of the drug in treating human patients was made one year after the series was started. In this paper they described complications referable to the nervous system, the gastro-intestinal system, and the skin. They caution against indescriminate use of the drug and state that it should be used only in cases who are not effectively treated with phenobarbital and they further note that it may be used only in patients who are under close medical supervision. These two statements have been to frequently disregarded by enthusiastic clinicians anxious to "use the new drug".

With more prolonged experience Merritt & Putnam report[4] that 60 percent of patients with grand mal attacks, 62 percent with psychic equivalent states and 39 percent with petit mal attacks are completely relieved of their malady as long as they stay on the medication. In addition to this number a respectable percentage of patients may be called improved. These results have been verified by numerous investigators.

This drug has one major disadvantage—it is toxic for some individuals and because of this requires rather careful supervision by the physician. The successful use of this drug requires some knowledge of the complications to be expected and the method of controlling them.

B. Toxic reactions.

The presence of toxic features were mentioned by Merritt & Putnam[3] in their original report on the use of the preparations in treating convulsive disorders in humans. In later[4-5] papers they discuss them more fully.

The complications are of many types and an occasional patient may show symptoms in more than one physiologic segment. For clarity in discussion the complications and their management will be discussed under the various bodily systems following in general the outline of Merritt & Putnam.[5]

I. Gastro-intestinal symptoms.

Dilantin sodium is a strongly alkaline preparation and the gastric distress is thought to be due to the ingestion of this preparation

*Read before the Section on Neurology, Psychiatry and Endocrinology, Annual Session, Oklahoma State Medical Association, April 24, 1942.

on an empty stomach. The symptoms consist of a feeling of nausea, some epigastric distress and in severe instances of vomiting after the medication is taken. The attacks are transitory but tend to recur with repeated dosage. The complication is avoided if the preparation is taken with food, either just before, during or just after eating. It is reported[5] that the simultaneous administration of dilute hydrochloric acid also prevents this complication. We will later discuss one instance in which severe gastrointestinal pathology resulted from the medication, the pathology consisting of a hemorrhagic enteritis and gastritis complicating a severe reaction in the skin.

II. Symptoms referable to the central nervous system.

Toxic reactions to dilantin with central nervous system manifestations were among the earliest[3] complications noted. They were at first thought to be due to overdosage but they do occur in adult patients who are taking the usual minimal dose, and are perhaps a manifestation of limited tolerance in that particular person. The occurrence of these toxic manifestations is not associated with any particular type or severity of epilepsy and is not any more prevalent in those individuals suffering from pathology of the central nervous system other than the epilepsy.

The symptoms are usually mild and transitory in type. They most often consist of tremors, ataxia, diplopia, vertigo and severe headaches. The symptoms are unpleasant but do not particularly incapacitate the patient and disappear promptly on withdrawal of the drug. In most persons they will recur if the previous dose is again prescribed and maintained for any prolonged period of time. This type of reaction is illustrated by the following case: E. D., age 19. There was a history of very mild petit mal attacks for the previous 18 months. Neurological study showed no cause for the convulsive attacks. Electroencephalogram showed typical changes, seen in petit mal conditions. She was placed on Dilantin, grs. 1½ four times daily in January, 1941. The spells were relieved completely. In May, 1941, she began to lose her appetite, in June seemed forgetful, became irritable, started vomiting, and then began experiencing double vision and ataxia. Examination in July, 1941, showed the patient to be extremely emaciated with a mild degree of hypertrophy of the gums, generalized muscular incoordination, horizontal nystagmus which was very pronounced. Mentally she was cheerful and cooperative, and manifested no behavior disturbance or change in sensorium. Dilantin was omitted, the vomiting ceased immediately, and the symptoms entirely disappeared within ten days.

In more severe reactions the patient may show a marked confusion, a motor agitation and symptoms typical of an acute psychotic episode. These cases also improve upon withdrawal of the drug and may be regarded and treated as any other toxic reaction to medication. A reaction of this sort was shown by H. F., age 10. The patient had been having petit mal attacks about a year and a half. Usual neurological and laboratory investigations revealed no causative factor. Encephalogram showed nothing unusual. She left the hospital taking Dilantin grs. 1½ three times daily. She was free of seizures for the next ten months and then had an occasional seizure for the next several months. Dilantin was increased to grs. 1½ five times daily. Three weeks later she began to show unsteadiness in walking which progressed to a marked ataxia. Pronounced dysarthria and silly behavior were present, as well as dulling of the intellectual function. Examination showed considerable hypertrophy of the gums, very broad based ataxic gait, generalized muscular incoordination, dysarthric speech, nystagmus in all directions, with considerable clouding of the sensorium. The Dilantin was discontinued and she was placed on Phenobarbital, grs. 1½ twice daily. Her symptoms cleared up in two weeks, and there have been no more of the convulsive attacks.

Another syndrome is ataxia, aphasia, focal neurological signs, and confusion. In some instances the clinical picture resembles a brain tumor, but shows improvement upon withdrawal of the offending drug. An interesting case of this sort was seen in consultation by one of us. The patient was a 31 year old white male when be came to the Out Clinic first in March, 1941. At that time he complained of both petit mal and grand mal seizures. The usual routine laboratory tests, including blood count, uranalysis, blood serology and glucose tolerance tests, were negative. His physical and neurologic examinations at this time were also negative. On May 6, 1941, he was placed on phenobarbital, grains 1½, b.i.d., with dilantin, grains 1½, once daily. On June 3, 1941, his medication was changed to phenobarbital, grains 1½, b.i.d., and dilantin, grains 1½, b.i.d.

On September 16, 1941, he complained of some difficulty in his work which required considerable mentation and it was very apparent that he was suffering from an acute toxic, or organic, psychosis. He described visual and auditory hallucinations, as well as a great many "dream-like, nightmare-like sensations". His sensorium was grossly dis-

turbed, and the question of brain tumor was raised. He was referred to one of us for an E.E.G. which gave evidence of idopathic epilepsy, poorly controlled by medication.

Repeated neurological examinations at this time revealed uniformly exaggerated deep reflexes throughout and a positive Babinski sign on the left. An air encephalogram was done with the following report: "Questionable slight displacement of inter-ventricular septum to the left. Right lateral ventricle shows less air filling than left. Appearance of cortical pathways practically is the same bilaterally." The E.E.G. was repeated but still gave no evidence of a tumor but was still typical of epilepsy. In spite of this on October 17, 1941, a craniotomy exploring the right frontal lobe was done and no gross or microscopic evidence of tumor was found.

He returned to the hospital on two or three occasions during November and December and seemed decidedly improved, returning to his work in the later part of December, but he still complained of some mental sluggishness with regard to his work.

The unusual feature in the above case is the small dose upon which the toxic symptoms developed, and the presence of what appeared to be a brain tumor with some signs pointing to localization of the pathology. Blair reports an analogous case in which a patient developed a hemiplegia from Dilantin 1½ grains t.i.d. The hemiplegia cleared completely and promptly upon withdrawal of the drug.

Levitt and Blonstein[6] report the case of a 27 year old male who developed a toxic amblyopia after taking dilantin sodium in a dose of 1½ grains t.i.d for four months. This patient's vision failed rapidly until he had 20/200 vision in the left eye and light preception only in the right. The vision returned to normal upon withdrawal of the drug.

On the other hand recovery has occurred after the suicidal ingestion of 67½ grains (45 capsules).[7] The symptoms in this case were drowsiness, dizziness, trembling, and unconsciousness. The patient was treated with stimulants, recovered within a few hours and was able to resume his normal activity in four days. Aring and Rosenbaum[8] report the case of a young man who took the drug for the "lift" he got from it, using it as a substitute for whiskey. On various occasions he took doses of 60 to 105 grains. Following a period of confusion he would develop nausea, vomiting, vertigo and nystagmus.

Gruber[9] and his co-workers in a series of animal experiments found the lethal dose to be three to four times the toxic dose under the conditions of their experiment. The animals receiving lethal doses had seizures and "died of central nervous system depression". It is interesting to note that Williamson[14] also noted that the idiots and imbeciles tolerate the drug less well than the feeble minded of comparatively greater intellectual development. He reports three deaths due to status epilepticus in this group of defective children. Blair[15] also reported an increased frequency of seizures in certain patients receiving sodium diphenylhydantoinate but his patients were adults of presumably normal intelligence. In these cases an increase in the dosage of the drug produced an increased frequency of seizures while a decrease in dosage brought about a reduction in the number of convulsions.

Finkelman and Arieff[16] have reported four cases showing a rather severe encephalopathy and confused paranoid irritable states in six individuals. They also report two children who developed temper tantrums while on the drug and two patients who developed a satus epilepticus while being treated with dilantin.

III. Complications involving the skin.

Cutaneous manifestations are among the most common toxic signs. About 5 percent of patients on this medication will at some time develop dermatologic pathology. The lesions usually develop within seven to 15 days but may occur at any stage of the administration of the drug. These cutaneous conditions are usually of mild generalized erythematous type similar to any drug intoxication and they subside spontaneously either with or without withdrawal of the drug. An occasional case will develop small hemorrhagic lesions of the skin and cases of severe exfoliation dermatitis with a generalized systemic reaction are reported. In these severe complications the drug should be withdrawn immediately. Withdrawal of the drug and general supportive measures are sufficient to bring about improvement and recovery from the complication. The lesions tend to reappear if the drug is again exhibited and in patients who develop the severe skin reactions the drug should be permanently discontinued. There are a few female patients who complain of an increased hair growth about the face and over the extremities. Such reactions are infrequent and in our experience very mild.

A severe cutaneous reaction of hemorrhagic erythema multiformi which resulted in death occurred on our service.

The patient was a 35 year old divorced white female waitress who had been under the care of the John Sealy Clinic for 10 years, for complaints of abortion, fracture,

syphilis, salpingitis and seizures. During this time she received some treatment for syphilis but her attendance at clinic was irregular. The first convulsion occurred on November 8, 1937, at which time she was 31 years of age. At this time laboratory and neurologic studies including an air encephalogram revealed no cause for the seizure although it was felt the tertiary syphilis might have been contributory. No anticonvulsant was administered as the seizures were mild and infrequent at that time. On January 26, 1938, patient was started on phenobarbital grain 1½ daily which was increased to grains 1½ t.i.d. on April 4, 1938.

Dilantin sodium grains 1½ t.i.d., was prescribed on September 15, 1941 because she was having seizures with increasing frequency. She was next seen on September 29th at which time she entered complaining of vomiting, a sore mouth and a skin rash. She stated that after taking the drug for one week she had developed a pain in her leg and had increased the dose to 3 grains t.i.d. on her own initiative thinking it would relieve the pain. On the second day of this dose she began to have nausea, the skin rash appeared and her mouth became sore. She continued to take the drug however until the time of her admission.

Upon admission she was confused and lethargic, but cooperative. There were generalized hemorrhagic lesions of the skin subsequently diagnosed as hemorrhagic erythema multiformi. She had a temperature of 103.4°F. Her lips were red, swollen, sore and fissured. The gums were swollen and oosing blood. Her pharynx was acutely inflamed. She had a rather severe conjunctivitis. Vomiting occurred periodically, and the emesis was streaked with blood. (slide)

Laboratory studies revealed a positive Wassermann & Eagle, CO_2 combining power of blood 37.2 and 40, Platelets 175,000-200,000. There was a moderate concentration of the blood. The drug was withdrawn and she was treated with fluids, glucose and sodium thiosulfate. The skin lesions improved and the temperature fell to 101° but subsequently returned to 102°. The conjuctivitis and sore mouth persisted. The confusion became more marked and she was semicomotose just preceeding her death. Post mortem report as follows:

Skin: Hemorrhagic dermatitis.

Respiratory: Hypostatic congestion.
Pleural adhesions.

Gastro-Intestinal: Gingivitis.
Stomatitis.
Hemorrhagic gastritis.
Hemorrhagic enteritis.
Old appendectomy.

C.N.S.: Softening of right temporal lobe.
G. U.: Old panhysterectomy.

IV. Complications manifest in the mouth.

The most common toxic reaction to dilantin therapy is a reaction of the gums. This reaction may vary from a slight reddening of the dental margin to a marked hyperplasia of the membranes. Some type of gum reaction is seen in 20-30 percent of persons taking dilantin but five percent or less show reactions severe enough to warrant termination of treatment. The cause of this symptom, found only in cases receiving dilantin, is not known. Kimball reported a deficiency of Vitamin C in these patients but a more careful survey by Merritt & Foster[10] revealed this to be an erroneous observation.

Robinson[11] has classified the changes in the gums into five groups according to the severity of the reaction.

1. The gums are reddened at the dental margin but are not raised and do not bleed. This is the type of gum reaction seen in the majority of patients and treatment may be continued but observation should be frequent and the case closely followed.

2. Elevation of the tissue between adjacent teeth. This condition is painless and is not accompanied by bleeding. If patients have this complication and can be maintained on phenobarbital the dilantin should be discontinued. In cases uncontrolled by other measures the drug may be cautiously continued in the face of this pathology.

3. In this type of complication the area along the dental margin is raised. There is no bleeding and no pain. It is our belief that the medication should be withdrawn if this condition develops as a continuation of the drug usually produces one of the more severe stages.

4. Fungating, generalized overgrowth of the gums. The hypertrophied tissues may bleed but the condition is not painful and may go unnoticed by children.

5. An extensive overgrowth of the gums covering the anterior and posterior surface of the teeth. In this stage the teeth may be buried and chewing becomes a painful process. The tissues may bleed upon touch or where bitten by the underlying teeth.

The severe oral complications listed under 3, 4 and 5 are indications for prompt withdrawal of the drug. In most instances the gums return to normal with no treatment other than ceasation of the drug although one case is reported[11] in which the tissue remained after the drug was discontinued. The overgrowth tends to recur if the patient is again placed on dilantin therapy, and in individuals exhibiting severe reactions of the gums, the drug should be permanently discontinued. Progynon-B, Ascorbic acid, plastic operations and other measures suggested for this condition have proven ineffectual.

V. Complications of the Hemopietic System.

These complications are infrequent. In some persons a slight leucocytosis occurs and eosinophillia is often encountered. Aring[8] reports the development of an agranulocytic angina in a child who was in status epilepticus and who had ingested a total of 149¼ grains of dilantin sodium in a period of 67 days. Recovery was prompt upon withdrawal of the drug. In general it may be said that this type of complication is infrequent and inconsequental in the management of the epilepsies. Treatment is complete withdrawal of the drugs.

VI. Complications of the genito-urinary system.

Complications in this system are almost unknown. A few patients complain of an increase in libido. This may be an action of the drug or it may represent a reaction to the release from sedatives such a phenobarbital or the bromides which most of these patients had taken prior to institution of dilantin therapy. Williamson[14] mentions that two of his patients developed hematoporphyrinuria while on this medication and several authors noted albuminuria and a supression of urine in patients who were taking this drug. The findings are of course manifestations of general toxicity and not specific for dilantin.

VII. Cardiovascular complications.

These have been absent in our experience. Arieff in discussing a paper[12] on the use of this drug mentioned precordial distress and E.C.G. evidence of myocardial change in some of his cases.

Finkelman & Arieff[16] have reported a careful study of 27 patients with serial electrocardiograms before, during and after dilantin medication. Twenty-five of their patients showed some definite E.C.G. change. Fifty percent showed a prolonged P.R. interval and 78 percent showed a decreased amplitude in T-wave. In every instance discontinuation of the drug caused the E.C.G. pattern to return to the pre-treatment pattern for the particular patient. Williamson[14] also noted a slowing of the pulse rate in some of his patients while they were receiving this medication. This work should be investigated more extensively but in our experience cardiac complications have not been a significant factor in the management of patients with epilepsy.

VIII. Complications of the Respiratory System.

Complications of the respiratory organs appear to be rare. Frost[17] mentioned epistaxis as a complication to dilantin therapy but it has been generally observed.

Dickerson[12] reports a death in a child three years of age who had received dilantin 1½ t.i.d. for one month before the onset of toxic symptoms. The post mortem examination revealed a severe ulcerative, desquamative bronchitis, and bronchopneumonia. Other authors have reported deaths due to bronchopneumonia in patients receiving diphenylhydantoinate sodium but the role of the medication in the production of the pneumonic infection is uncertain.

C. Avoidance and Detection of Toxic Symptoms.

The milder toxic manifestations are so common that they can not be entirely avoided if the drug is to be used at all. Many persons develop these toxic symptoms on the usual therapeutic dose and the complications arise as a result of a poor tolerance for the drug or perhaps a hypersensitivity to some factor in the preparation. The reason for these severe reactions in some persons while others tolerate huge doses is not known and the selection of a particular body segment for development of the pathology is likewise unclear. It is not beyond the realm of expectation to assume that further experimentation with related synthetic products may reveal equally effective compounds with fewer toxic properties.

At present the drug may be used under the conditions originally outlined by Merritt & Putnam. That is the patient must be carefully supervised while receiving treatment with dilantin sodium. Almost all complications will quickly subside if treatment is discontinued immediately upon development of toxic signs. Patients placed on this anticonvulsant should be instructed to report to the physician immediately upon the development of any unusual or untoward reactions.

Some writers have mentioned prodromal signs of toxicity but these signs have not been found in enough patients to be of more than suggestive value in the management of these cases. McCarter and Carson[15] report that some of their patients developed twitching of the facial muscles for several days prior to the onset of the more severe signs of central nervous system complications. Finkelman and Arieff[16] believe "A loss of weight . . . was an indication of the development of toxic symptoms leading to an encephalopathy." In our experience a mild hyperplasia of the gums and a mild erythematous dermatitis are the most frequent early signs of toxicity.

D. Use of Diphenylhydantoinate Sodium.

Diphenylhydantoinate sodium should be reserved for use as an anticonvulsant medication in those patients who continue to have attacks in spite of heavy dosage with phenobarbital. These patients must be under strict medical supervision throughout the period of medication with this preparation. Patients

who are adequately controlled with phenobarbital should not be placed on the newer preparation as phenobarbital therapy is safer, produces few complications and requires less frequent check-ups of the patient. When dilantin is to be used the initial dose in adults is 1½ grains t.i.d. and ½ grain t.i.d. in small children. In all cases the minimal effective dose is the one of choice. The dosage is regulated by increasing by one dose daily until an effective level is reached, but patients who continue to have seizures on a daily dose of nine grains will probably not be benefited by this preparation and larger doses are prone to produce the early signs of central nervous system complications. All medication should be given with meals to prevent the development of nausea.

Caution is needed in changing patients from the bromides or phenobarbital to dilantin therapy or the reverse. In the absence of complications necessitating the prompt withdrawal of the medication, the replacing drug should be substituted one dose per day until the patient is taking only the newer drug. If the patient notes an increase in the frequency of seizures upon taking dilantin the drug should be promptly withdrawn, and phenobarbital again substituted because some of the above reports would at least suggest that this drug may percipitate a status epilepticus in certain individuals.

Certain persons suffering from sever epilepsy fail to respond satisfactorily to either phenobarbital, the bromides or sodium diphenylhydantoinate. The typical case of this type will show a decrease in the incidence of attacks on any of the preparations, but in spite of the improvement will be unable to continue in school or at work because of recurring seizures. Many of these patients may be almost or entirely protected from further attacks by using a combination of phenobarbital and diphenylhdantoinate sodium. Robinson and Osgood[19], Cohen and Showstack[20] and others report favorable results from a combination of the two drugs. Robinson and Osgood[19] noted that patients who responded to dilantin-phenobarbital therapy did so on relatively small doses and the increase in the size of the dose had little added effect on the patients who were refactory to the smaller amounts of drug. The reported experience of these workers coincides closely with our use of the combination of the two anticonvulsants. Cohen and Showstack[20] recommend the use of benzedrine in those patients who show signs of undue lethargy from the phenobarbital and also in those patients showing mild complications to the dilantin. In patients who are to receive the combined therapy the usual initial dose is phenobarbital grains 1 twice daily and sodium diphenylhydantoinate grains 1½ twice daily. If this proves insufficient each drug should be increased by one dose daily until the seizures are controlled or to a maximum of dilantin grains nine daily and phenobarbital grains nine daily. In our experience almost all patients can be greatly benefited if not entirely controlled by this routine. If this dose proves ineffective larger doses will probably be of no further benefit. Patients on this combined routine of dosage are subject to all the complications of dilantin therapy outlined above and close supervision must be observed if serious reactions are to be avoided.

E. Summary.

Sodium diphenylhydantoinate is the most potent anticonvulsant medication now in use. It may produce toxic manifestations in certain susceptable persons and therefore requires careful medical supervision. Because of this toxic property its use should be reserved for those patients who cannot be controlled by phenobarbital medication. In patients who have convulsions in spite of either phenobarbital or dilantin therapy, a combination of the two drugs in smaller dosage is often effective. The complications first appear in a mild form and their detection and their management has been presented.

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Typhoid Fever*

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In his classic of logical deduction William Budd, in 1873, stated that: "In connection with typhoid fever there are few things which concern the people of this country more deeply than to know the exact truth touching the mode in which this fatal fever is disseminated amongst them. Even in the highest class of society the introduction of this fever into the household is an event that generally long stands prominently out in the record of family afflictions. If this be true of the mansions of the rich, who have every means of alleviation which wealth can command, how much more true must it be of the cottages of the poor, which have scant provision even for the necessaries of life, and none for its great emergencies. Here, when fever once enters, then sorrow follows, and contagion is not slow to add its peculiar bitterness to the trial.

"How often have I seen in past days, in the single narrow chamber of the day laborer's cottage, the father in the coffin, the mother in the sick bed in muttering delirium, and nothing to relieve the desolation of the children but the devotion of some poor neighbor, who in too many cases paid the penalty of her kindness in becoming, herself, a victim of the same disorder."

"In its ordinary course, human life has few such consummations of misery as this."

Typhoid fever was confused for centuries with other continued fevers, such as recurrent fever, septic infections and typhus fever. Louis, the distinguished French clinician, in 1829, gave the name typhoid fever to the malady to distinguish it from typhus fever. Eberth, in 1880, saw the bacillus typhosus in the tissues, and four years later Gaffky grew it in pure culture. In 1894, Wright, Pfeiffer and Kolle began typhoid inoculations, but it took something over ten years to establish the prophylactic value of typhoid vaccines.

It is indeed fortunate that typhoid fever has practically disappeared from our larger cities.

Table I shows the degree of typhoid decline from the period 1910 to 1939, inclusive, for 78 cities of the United States:

TABLE I.

TOTAL TYPHOID RATE FOR 78 CITIES
1910-1939†

Year	Population	Typhoid Deaths	Typhoid Death Rate per 100,000
1910	22,573,435	4,637	20.54
1911	23,211,341	3,950	17.02
1912	23,835,399	3,132	13.14
1913	24,457,989	3,285	13.43
1914	25,091,112	2,781	11.08
1915	25,713,346	2,434	9.47
1916	26,257,550	2,191	8.34
1917	26,865,408	2,016	7.50
1918	27,086,696*	1,824*	6.73
1919	27,735,083*	1,151*	4.15
1920	28,244,878	1,088	3.85
1921	28,859,062	1,141	3.95
1922	29,473,246	963	3.26
1923	30,087,430	950	3.16
1924	30,701,614	943	3.07
1925	31,315,598	1,079	3.44
1926	31,929,782	907	2.84
1927	32,543,966	648	1.99
1928	33,158,150	628	1.89
1929	33,772,334	537	1.59
1930	34,386,717	554	1.61
1931	35,137,915	563	1.60
1932	35,691,815	442	1.24
1933	35,691,815	423	1.18
1934	35,401,715	413	1.17
1935	35,401,715	348	1.03
1936	36,216,404	336	0.96
1937	36,771,787	280	0.82
1938	36,972,985	248	0.74
1939	37,112,665	239	0.67

*Data for Fort Worth lacking.

†The following 15 cities are omitted from this table because data for the full period are not available: Canton, Chattanooga, Dallas, Fort Wayne, Jacksonville, Knoxville, Long Beach, Miami, Oklahoma City, South Bend, Tampa, Tulsa, Utica, Wichita and Wilmington

Table II shows the total typhoid death rate per 100,000 of population for 93 cities according to geographic divisions:

*Read before the Section on General Medicine, Annual Session, Oklahoma State Medical Association, May 20, 1941.

TABLE II.

TOTAL TYPHOID DEATH RATE PER 100,000 OF POPULATION FOR 93 CITIES ACCORDING TO GEOGRAPHIC DIVISIONS

		Typhoid Deaths		Typhoid Death Rates				
	Population	1939	1938	1939	1938	1937	1931-1935	1926-1930
New England	2,657,824	6	12	0.23	0.45	0.45	0.70	1.31
Middle Atlantic	13,602,500	51	59	0.37	0.44	0.51	0.80	1.40
South Atlantic	2,622,237	27	46	1.03	1.74	1.96	2.70	4.50
East north-central	9,883,376	44	35	0.44	0.35	0.62	0.75	1.29*
East south-central	1,364,025	33	32	2.42	2.36	2.10	4.81	8.31
West north-central	2,809,679	14	11	0.50	0.40	0.76	1.24	1.83
West south-central	2,138,496	68	74	3.19	3.52	2.34	5.36	7.32†
Mountain & Pacific	4,276,412	22	22	0.51	0.52	0.68	0.88	1.80

*Data for South Bend for 1925-1929 are not available.
†Lacks data for Oklahoma City in 1926.

The west south-central group, which includes Oklahoma, shows a reduction in the death rate from 7.32 to 3.19. The causes of this improvement are the general cleanliness of water supplies, better milk supplies, more general use of pasteurization, typhoid preventive inoculations, the diffusion of information among the public concerning personal prophylaxis, the elimination of the great typhoid epidemic foci, and better public health administration, and the raising of the standard of general hygenic and sanitary measures.

Typhoid is not a vanishing disease. In 1939 there were 2,001 deaths in the United States from typhoid fever. Since the case fatality rate averages ten percent, there were approximately 20,010 needless cases of typhoid fever in the United States.

Typhoid fever is an acute, specific generalized infection due to the bacillus typhosus and characterized by a continued fever lasting about four weeks, a rose-colored eruption and diarrhea. The disease varies greatly in severity ranging from "walking typhoid," so mild that it may escape diagnosis to fatal infections. The symptoms are also quite inconstant. The lesions affect especially the lymphatic system, spleen and bone marrow. The lymph nodes in the intestines ulcerate and may lead to an intestinal hemorrhage, which is one of the complications. The bacilli are found in the blood early in the disease. A leukopenia soon develops. Leukocytosis in typhoid fever indicates some inflammatory complication such as intestinal perforation. One attack gives a fairly permanent immunity. The period of incubation is variable, usually ranging from seven to 23 days, commonly ten to 14 days. The extremes are three and 40 days. It differs in different epidemics, for the period of incubation depends upon the number of organisms ingested, their virulence and the resistance of the host.

Miner found the average periods of incubation in three epidemics due to infected water to be 13 and 19 days; whereas, the averages of milk-borne epidemics, in which the dose was probably more massive, were seven and nine days. Convalescence is deliberate; sequelae are few. An attack of typhoid fever, however, seems to leave the patient in a weakened state. For three years afterward the death rate of persons who have had typhoid fever is twice the normal rate for those of the same age who have not had typhoid.

From the standpoint of preventive medicine, it is proper to regard an outbreak of typhoid fever as a reproach to the sanitation and civilization of the community in which it occurs. It is clearly a disease of defective civilization, for communities that pay least attention to sanitation, as a rule, suffer most. The physician has a dual duty in the care of a case of typhoid fever. One is to assist the patient, the other is to protect the community. Every case of typhoid fever means a short circuit between the alvine discharges of one person and the mouth of another. The health authorities are charged with finding the origin of the infection and its mode of transmission in order to prevent further spread from that source.

It is the primary purpose of this paper to correlate the activities of the private physician and the health department so that needless infections may be avoided. With this in view a few practical suggestions are presented.

The importance of prompt reporting either by telephone or on the cards provided for that purpose cannot be over-estimated. To eliminate typhoid fever from any community every case should have a thorough epidemiological investigation. The purpose of this investigation is to ascertain, if possible, the source and route of infection responsible for the case. After convalescence, the possibility of a carrier state developing must be investigated and, if this has occurred, the

carrier should be kept under health department control.

The typhoid bacillus enters by the mouth. Typhoid fever is generally thought of as a gastro-intestinal infection, although the disease itself does not occur without infection of the blood stream. the glands and other structures of the body. The disease is now regarded as primarily a blood infection or bacteriemia. The bacilli leave the body mainly in the feces and urine, occasionally in the sputum, and other discharges. They appear in the feces early in the disease, sometimes before the fever. Late in the disease they diminish in number and usually disappear during convalescence, although they may continue indefinitely.

Since typhoid bacilli appear in the blood early in the disease, perhaps occasionally during the prodromal symptoms the blood culture is the earliest laboratory aid to diagnosis. Rosenau obtained positive blood cultures from approximately 90 percent in the first week, 65 percent in the second, and 42 percent in the third. About 33 percent of cases continue to discharge typhoid bacilli in the feces or urine for three weeks after the onset of the disease and about 11 percent for eight to ten weeks. If the carrier state lasts a year it may be considered chronic. From two to four percent, and sometimes more, of all cases continue to discharge typhoid bacilli indefinitely; these are active chronic carriers.

Women seem to outnumber men as carriers and are more subject to involvement of the gallbladder and to gallstones. It is now well understood that typhoid bacilli localize and maintain themselves in the gallbladder and the bile ducts, which are the chief sources of typhoid bacilli found in fecal carriers. Children are less subject to gallbladded disease, and seldom become carriers. Typhoid carriers are either fecal or urinary, or both. The fecal type is more frequent than the urinary, and apparently more dangerous, since most outbreaks of typhoid fever are traced to this type of carrier.

The story of typhoid Mary is an epidemiological classic and was the first of its kind to be reported in America. Indifferent, indeed, must be the medical man or surgeon who is not fascinated by this interesting story recently told by Dr. George A. Soper. Fifty-three cases with three deaths were definitely traced to Mary Mallon. There were, doubtless, many others produced which were never recorded.

As has been stated, one of the principal sources of the spread of typhoid is milk produced under insanitary condition. The typhoid outbreak at Bartlesville in the summer of 1940, had certain characteristics pointing rather definitely toward a milk-born origin.

1. The incidence of the disease followed exactly the distribution of the suspected milk supply.
2. The better classes of homes were involved. There were none reported from families too poor to purchase milk.
3. Individuals who drank the most milk, such as children, were affected principally.
4. The incubation period was relatively short, probably on account of the large number of bacilli ingested.
5. More than one case occurred simultaneously in a home.
6. Clinically, some of the cases ran a very mild course owing to the fact, no doubt, that the organism became attentuated in the process of multiplication in the milk.
7. The outbreak was relatively small since the total number of persons drinking the suspected milk was small.
8. The sale of the milk in a nearby city where it had previously not been sold before, was followed in about two weeks by the appearance of several cases of the disease.

We may concern ourselves, principally, with the typhoid carrier and in this connection there have recently been some additions to our methods of carrier detection. In every suspected case of typhoid fever the physician should avail himself of all the laboratory procedures at his disposal. These may be obtained either through a private laboratory or a State Health Department laboratory. The clinical manifestations should always be confirmed by bacteriological examination of the blood, feces and urine, and by the Widal test. A positive culture is, of course, of much more significance than a positive Widal. However, cultures may sometimes be negative and a Widal reveal the nature of the disease. This is particularly true when there are two specimens taken, the second of which shows a higher titre than the first.

Every effort should be made to secure stool and urine cultures from all cases and their contacts. If there is reason to suspect a carrier, no limit should be placed upon the number of cultures obtained; that is, several negatives may be followed by a positive when least expected. In addition to the securing of cultures, it may now be definitely recommended that Widals be taken on all suspected cases, carriers and contacts. This recommendation may be made due to very recent refinements in the agglutination test.

S. S. Bhatnagar (1938) states that in the

laboratories of the army in India Wedal reactions have been carried out as a routine every fourth day throughout the course of a continued fever against standard O and H suspensions. From personal experience and from a study of the carefully kept records of the cases of typhoid fever for the past five years, he has observed that in a typhoid infection in the inoculated the trouble taken in estimating the O and H agglutinins could not be justified when the value of the results obtained was assessed. Reliance had, therefore, to be placed on the isolation of the infecting organism from the blood, the urine, or the feces. Where this failed, he was commonly confronted with a positive, clinical picture and doubtful serological findings. The results proved to be so disappointing that the practice of carrying out tests for the detection of H agglutinins has recently been entirely discontinued in the army of India.

It is now generally recognized that, apart from O and H antigens, the great majority of strains of bacterium typhosum contain a third antigen,—the Vi antigen described and designated as such by Felix and his coworkers.

1. The O or somatic antigen is present in the bacterial body and resists heating to 100°C.
2. The H. antigen is present in the flagellum. It is thermolabile.
3. The Vi antigen is also present in the bacterial body, perhaps as a capsule about the O antigen. It is thermolabile and to it virulence has been attributed.

A new serological apporach was opened when Felix and Pitt (1934) described the Vi antigen of the typhoid bacillus. This antigen is present in all virulent typhoid cultures; hence designated as the Vi or virulence antigen, and is absent or much reduced in quantity in cultures of low virulence. The H antigen gives rise to H antibody which has no bearing on the infectiousness of the organism or the course of the disease. The somatic or so-called O antigen of the smooth culture is a surface carbohydrate which has been shown to be toxic when extracted and partially purified (Henderson and Morgan, 1938). The corresponding O antibody neutralizes toxicity and prevents disease under certain conditions. The Vi antigen is also a surface somatic carbohydrate (Eliot).

Up to the present, Bhatnagar has not failed to correlate a positive Vi agglutination reaction with either the isolation of the infecting organism or with a positive clinical picture of typhoid fever. The great advantage of this type of agglutination lies in the fact that a positive result clinches the diagnosis of typhoid fever.

Bensted expressed the opinion that typhoid paratyphoid inoculation does give rise to Vi antibody, but only in very small amounts, not large enough to be taken account of in Vi agglutination.

Bhatnagar further observed that during convalescence from typhoid fever, as a rule only traces of the Vi antibody could be found in the serum. In a certain number of cases, however, the Vi titre continued to be high in spite of the termination of the acute infection. He interprets this as a tendency toward the carrier condition. Bacterialogical examination of the stool and urine have confirmed this interpretation.

The suggestion that possibly Vi agglutination may be a useful method of detecting chronic typhoid carriers was made by Felix, Krikorian and Reitler (1935). In 1938 Felix published the results of the examination of a considerable number of chronic carriers, using this method with excellent results. It may be stated reliably that the detection of the Vi antibody in a serum is taken to be an indication for a thorough search for typhoid bacilli in the stools and urine.

Eliot, continuing this work, states that the carrier condition is manifested by demonstrable Vi agglutinin in the blood in 95 percent of proven chronic carriers. For practical purposes the isolation of the typhoid bacillus from feces is a laborious, expensive and uncertain procedure. This inadequacy of laboratory methods, coupled with the possible intermittency of excretion of typhoid bacilli by the cronic fecal carrier, makes a negative result on one or two specimens of doubtful diagnostic significance. Ultimate recognition of the carrier must, of course, depend on demonstration of the typhoid bacillus in feces, urine or duodenal fluid. But some surer, quicker method than isolation of the organism is urgently needed for the purpose of tracing the typhoid case to its source, or in detecting the potentially dangerous food handler. We feel that the Vi agglutination test may be a partial solution to this problem, and the Oklahoma State Health Department is planning to make this test available for special studies of typhoid carriers.

Craigie and Yen have reported 706 strains of bacillus typhosus of which 98.6 percent were typical Vi forms. The present paper will not concern itself with the typing of the various Vi forms with specific bacteriophage, since the health department is not ready to assume this additional burden at the present time. However, it is felt that the Vi agglutination test, as performed by the tube method, will be of considerable value in the diagnosis of typhoid fever and in the search for carriers when its technical diffi-

culties have been overcome. Additional studies on the practicability of the Vi agglutination test in an endemic typhoid area, such as Oklahoma, are needed before this test can be released for general use by practitioners and health officers.

All State Health Departments should have a uniform method of procedure in the management and control of the carrier problem, which ideally would be incorporated in a central Federal bureau to preserve the records of the carriers, their movement, occupations, environments, and when available their classifications by phage typing.

SUMMARY

1. All typhoid fever cases, contacts and carrier suspects should have repeated stool and urine cultures.
2. The Widal agglutination tests as performed with O and H antigens is unsatisfactory in differentiating between a clinical case of the disease and a previously inoculated individual.
3. The Vi agglutination test is said to be a valuable means of differentiating between clincal typhoid and a previous vaccination, since the Vi agglutination titre is very low or negative following typhoid inoculation.
4. A positive Vi agglutination test is an indication for thorough culture examination of the stools and urine for typhoid bacilli.
5. The Vi agglutination tests is a valuable addition to blood, stool and urine cultures in the search for carriers and the diagnosis of the disease, but needs additional investigation in epidemic areas.
6. The Vi agglutination test is being added to the laboratory procedures of the State Health Department for special typhoid carrier studies.
7. Bacteriophage typing of bacillus typhosus is suggested as a desirable procedure in outbreaks of typhoid fever, and is being contemplated as a possible later addition to the Health Department laboratory.

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Eczema*

Modern Concepts of Treatment

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Eczema is a sensitization dermatitis resulting from repeated exposure or contact with normally innocuous substances. It is not a scientific term but the word is so commonly used for the designation of any itching dermatosis of unknown etiology that the general practitioner unhesitatingly labels it eczema and the dermatologist arrives at the same conclusion rather doubtfully and reluctantly.

Eczema, however, is not the dermatologic waste basket that it once was. Investigative research has rescued, so to speak, many clinical and well defined entities such as seborrheic dermatitis, and certain characteristic eruptions involving the hands, feet and genito crural regions which are now known to be caused by fungi or monilia and are classified accordingly.

Food as the primary etiologic factor no longer holds sway and it is now known that its importance has been unduly emphasized. This holds true not only in adults but to a somewhat lesser extent in infantile eczema[1] as well, and it is to the allergic study of this condition that we are indebted for the more modern concept of eczema. Since this paper is primarily a resume of treatment, a discussion of allergy with its related concepts of sensitivity, hypersensitivity, hoposensitivity, immunology and idiosyncrasy will not be entered into. Nor will mention

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be made of the various skin tests except to say that it is a much abused practice and of help only in a very small percentage of cases in establishing a causative agent. A carefully taken history will often disclose a family tendency toward hypersensitivity and will, in the industrial worker, or housewife, reveal such sensitizing agents as various chemicals, soaps, wool, silk, plants and so forth. The role of soap as an irritant and/or causative agent is discussed more at length later on. But, regardless of cause, the treatment is rather well defined.

Given a case of eczema in the acute stage when the skin is erythematous, vesicular and oozing, the treatment of choice is wet dressings. Nor is it material whether one uses a three percent aqueous solution of boric acid, a one to 15 solution of liquor aluminum acetate or a physiologic salt solution. What is important, however, is the method of application. Linen is preferable to gauze because it is not as irritating to a sensitive skin. The bandage must be wet at all times and the solution must under no circumstances be allowed to evaporate as the concentrate will act as an irritant. The bandage must be thick to permit of drainage and to do away with too frequent changes. An open bandage, one not covered with cellophane or oil silk, is preferable as it enhances slow evaporation, produces a cooling, soothing, antipruritic effect and has a lesser tendency to maceration. One can not emphasize too strongly the importance of a properly applied wet dressing as it oftentimes means the difference between success and failure. Time and again I have seen patients, even in hospitals, with one layer of gauze, half dried, loosely applied to an adherent skin. The patient or whoever is in charge is instructed to use clean, well washed linen, cut in strips three inches wide. The strips are saturated with any one of the aforementioned solutions and wrapped about the extremities five or six times. If on a flat surface the thickness of the linen should consist of five or six layers. The bandage need not be dripping wet. As already stated covered bandages are undesirable but where indicated as in the ambulatory case especially for the extremities, there is on the market at present a cellophane covering, known as dermotector which fits loosely over the dressing and is held in place by elastic bands protecting the patient's bed linen and clothes. Should a wet dressing, for various reasons, be undesirable, recourse may be had to lotions or pastes. Lotions are much cleaner and are more acceptable to patients than pastes, I hardly ever use the latter. The lotion most frequently used is the well known calamine formula. This formula may be greatly improved by adding six percent Bentonite to the mixture, (Bentonite is a mineral clay associated with Fuller's earth and Kaolin. It is an aluminum-ferrous-magnesium-silicon hydrate. A two percent aqueous solution has a ph of 9.5-9.8) which forms a suspensoid and gives a more uniform dispersion to the solution. It may be added to any formula as it is not incompatible with anything. A prescription such as the following may then be used. Calamine eight percent, zinc oxide, eight percent, glycerine two percent, calcium hydroxide with six percent bentonite qs ad.

Lotions should be applied every two or three hours and should not be removed oftener than once a day and then only in the gentlest possible way, with olive oil or a boric acid solution. If the lotion adheres do not irritate the underlying sensitive skin by forcing its removal. There are details but most important ones and, as stated before, may well mean the difference between success or failure.

When the acute, exudative phase has subsided and the skin becomes dry and scaly, the wet bandages are discontinued and either lotions or salves are substituted. Here, too, my preference is for lotions because they are cleaner and easier of application and they save the patient the trouble and expense of bandaging. The following active ingredients can easily be incorporated, either alone or combined into the lotion previously described: chloralhydrate two to four percent, Ichthyol five to 15 percent, liquor carbonis detergens three to 10 percent. When more than one active ingredient is used it is advisable to reduce the strength of each. In addition, phenol ½ to one percent or menthol ¼ to ½ percent may be added, as these are well known antipruritic agents. A logical prescription then, for an itching dermatosis where there is but little or no exudation or inflammation would be: Phenol one percent, menthol ¼ of one percent, chloral hydrate two percent, liquor carbonis detergens 10 percent, liquor aluminum acetate qs.

A valuable aid in the extensive acute or subacute dermatosis is the use of the "colloid" bath. This is prepared by adding two cups of bulk oats to one quart of water and boiling it for 45 minutes in a double boiler. After cooling for 15 minutes one half cup of baking powder is added to the mass, all of it placed in a muslin sack and the top of the sack tied. This is placed in the bath where it is squeezed until the water becomes "soapy" from the contents. The water should

be kept at a temperature of 98 to 100° F. and the patient may be kept in this for as long as it is comforting. On coming out from the bath the skin is patted dry and a soothing lotion applied.

The most invaluable agent in the treatment of some forms of eczema in the subacute stage which remains resistant to other forms of therapy is x-ray. The results are at times spectacular, especially in the cronic, lichenified type where the skin is leathery and pruritis. I am relying more and more on irradiation in the treatment of the subacute and cronic types of eczema. MacKee in his book "X-rays and Radium in the Treatment of Diseases of the Skin" says, "considered as one of the many remedies used in the treatment of eczema . . . and visualizing the disease in a very general way it is the author's opinion that x-rays are the best remedy that we have for eczema. In a general way it is our best antipruritic and our best resolvent agent for this purpose." That the use of x-ray as a therapeutic agent is not without its dangers is, of course, known to all and should not be attempted by the inexperienced. It is this type of eczema, with its tendency to chronicity that never fails to tax the skill of the physician and the patience of the victim. Of the topical remedies tar is the one commonly resorted to. Crude coal tar or any of its commoner preparations (Taraxide, taralba, liquor carbonis detergens, naftalan) are incorporated in an ointment containing an acid for keratolytic effect. In using tar one should begin with moderate strength and increase gradually to tolerance or until the desired effects are produced.

In eczema of the hands relapse is common in the winter months when the skin is naturally dried due to lessened sebaceous gland activity. The same may be said of other parts of the body. The use of soap in these individuals will cause an aggrevation of the eczematous process, due to the alkali action of the soap and the removal from the skin by its detergent properties what little of natural oil there may be present. Patients will, of course, react differently, to different soaps at different times but the reaction is invariably worse during the winter months. The number of skin eruptions directly traceable to the use of soap has increased in recent years due, I believe, to a gullible soap conscious public misled by a round the clock radio bombardment of tear jerking, nerve racking "washboard weepers" or soap operas. Good business for the soap manufacturers and broadcasting companies but bad for the skin. When one considers that there is also a neurogenic factor involved in most of these cases[3] the evil produced by these radio programs becomes even more apparent. That the presence of alkalis and saturated fatty acids in some soaps is responsible for skin irritation in certain individuals has been shown by Blank[4] and others.[5] Downing[6] in a report on two thousand cases of various skin diseases in industrial workers found that 249 of these were produced by soap. The use of sulfonated oils as a detergent in place of soap seems to be the answer to this vexing problem. There are a number of these on the market and their use is suggested in all cases of suspected soap eczemas because they have good cleansing actions and are free of eczematogenous factors. One[7] of these sulfonated oils in particular has been studied by Lane & Blank in the dermatologic clinic of the Massachusetts General Hospital and by dermatologists in the skin clinic of nine other cities and in a series of 350 cases of various skin dieasese 233 of which were eczemas, less than one percent showed hypersensitivity to the oil.

When eczema involves the lower extremities it is essential that the patient be kept in a recumbent posture with the foot of the bed in an elevated position as swelling will ensue and the course of the disease be unnecessarily prolonged if patient is permitted up and about. The treatment that I use in these cases is simple of application and is successful in a large majority. The leg or arm is painted with a five percent aqueous solution of gentian violet and permitted to dry. A two inch elastoplast or Ace adhensive bandage is then passed around the ankle, carried down over the foot, then upward in a spiral, overlapping turn to below the knee joint. The bandage is removed at the end of seven to 10 days. It is advisable to shave all hair over affected area prior to applying bandage. I have used the same method in the localized, vesicular patches of eczema — the so called nummular type — when only small, isolated areas are seen on the dorsal surfaces of the hands or feet. Results are not due to the medical virtues of the bandage or the gentian violet as to the fact that the skin is immobilized, so to speak, patient cannot scratch and the skin does not come in contact with extraneous irritants.

Infantile eczema is deserving of more space and consideration than can be devoted to it in this paper. In contradistinction to adult eczema food may be an etiologic factor in some cases but its importance as a causative agent has been overemphasized while

too little emphasis is given to contactants. The offending agents are usually wool, silk, mattress stuffing and other environmental agents. Of 124 children with eczema studied by Osborne, Jordon, and Hallett[1] about 50 percent were improved or entirely cured when hospitalization in a ward free of wool and feathers and fed a normal diet. In eczema of infants secondary infection is the rule rather than the exception and in these cases wet dressing of 1:4000 of potassium permanganate, or saturated solutions of boric acid are useful and may be applied six to eight hours during the day. With the onset of the dry state, or when the acuteness has subsided a mild tar[2] preparation may be used to advantage. This may be kept on at all times provided there is no tar sensitivity. I have also used x-ray therapy with excellent results in certain selected cases of atopic dermatitis in children.

What role do the vitamins play in the treatment of eczema? Finnerud and coworkers[8] report on a small series (18) of well controlled, hospitalized cases of eczema definitely improved when given lard by mouth, lard being rich in unsaturated fatty acids. Ginsberg and Bernstein[9] failed to see any specific benefits from feeding this type of cases with food rich in unsaturated fatty acids. Taub and Zakon[10] discouraged its use after trying it on eight cases. Cornbleet[11] reports gratifying results in a series of 87 patients from the internal administration of maize oil. M. Comel, quoted in the Year Book of Dermatology for 1935, cites good results in eczema when treated with vitamin D. Lever and Talbott[12] found "no direct correlation between the level of vitamin C in the blood and the development of the several diseases of the skin," including eczema. Ingestion of vitamin C by patients in this series had no influence.

S. N. Vendel of Copenhagen, Denmark, in the January, 1940, issue of the Lancet (quoted by The Year Book of Dermatology for 1940) states that "it is possible to cure most cases of eczema by administration of vitamin B complex." He reports on a series of more than 100 cases. The editors of The Year Book in commenting on the article observe that this "seems highly improbable" but add that "certain types of eczema, or eczematous eruptions, bordering on seborrheic dermatitis or subacute neurodermatitis seem to have been benefited by riboflavin or nicotininc acid and perhaps also by other constituents of the complex occurring in yeast or liver."

Paul Gross[3] reports that of 24 cases with nummular eczema treated with vitamin A satisfactory results were obtained in 18, two were greatly improved, one was improved to some extent, and three did not respond consistently. He found in most of these cases an existing asteatosis (dry skin), and early sign of A avitaminosis. If his results can be duplicated by others in this chronically recurring, protracted dermatosis so frequently seen by dermatologists and general practitioners alike a valuable contribution will have been made.

From the above it will be seen that one has to resort to empiricism when prescribing any of the vitamins in the treatment of eczema. In my own experience a proper evaluation is difficult because the big majority of patients are in no experimental mood when they present themselves for treatment. They want to get well in the shortest possible time and while I have tried the various vitamins collaterally with other agents it is my belief that when a cure or a remission occurs it is the local medication and not the vitamins which are responsible. In the undernourished case where a true state of avitaminosis exists such as an associated cheilosis of riboflavin deficiency, the phrynoderma (toad skin) of vitamin A deficiency or the dermatitis of pellagra, immediate and almost spectacular results will follow when the deficient vitamin is restored.

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Dysentery Carriers

Since it is only slightly absorbed into the blood stream, succinylsulfathiazole, a sulfonamide compound, is much less likely to produce severe toxic or poisonous reactions from sulfaguanidine in the treatment of dysentery carriers, William M. M. Kirby, M.D., and Lowell A. Rantz, M.D., San Francisco, report in The Journal of the American Medical Association for June 20. They found succinylsulfathiazole to be as effective in treating dysentery carriers as sulfaguanidine and as ineffective in treating typhoid carriers.

Urolithiasis*

J. W. ROGERS, M.D.
TULSA, OKLAHOMA

The patients whom we see with urinary calculi are for the time being interested only in relief of the pain or the desire to get rid of the stone or both, but as soon as this is accomplished he will likely ask us why he had the stone and whether he may have another? In order to give an intelligent answer we will have to know a good deal about the patient, the type of stone, and make quite an extensive study of the individual, for there is so far as our present knowledge goes, no one cause for all urinary calculi. The etiology of urinary calculi has always been a controversal subject and it continues to be, in spite of a great amount of investigative work done in recent years. The Massachusetts General Hospital has had a stone clinic since 1935 and has done notable work in finding the cause in the individual patients in the clinic.

On some etiological factors all are agreed. All agree that parathyroid disease causes urinary calculi but the percentage of stones caused by parathyroid disease varies greatly in different clinics. In some it has been found to be the cause of as high as five percent of the calculi encountered, while in others with an equal number of patients with calculi, the percentage is as low as 1/10 of one percent. I am unable to find any reason for this discrepency. I presume as our diagnostic ability and methods become more settled there will be less difference. In any case, we can all accept the fact that parathyroid disease causes a small proportion of urinary calculi. Another etiological factor on which every one agrees is that long illnesses requiring the patient to remain in bed for long periods, such as fractures and Infantile paralysis, causes decalcification of the bones, increased calcium in the blood and urine and so formation of stones. In such cases stasis may become a contributory cause.

Another cause of stone formation of which there is no controversy is of recent origin. It has been found that the sulfa drugs, constitute a fairly common cause of stone formation, sulfapyidine being the chief offender. From these accepted causes we pass to the realm of controversial causes. Stasis is considered an important factor by most of us but many think that stasis is only indirectly a factor, in that it causes infection and infection is the cause of the calculis. There is a general agreement that infection is an etiological factor but just why it will cause stones in one patient and not in another is a question. The urea splitting organisms are the chief offenders, such as B. Proteus, influenza bacillus and certain strains of staphlococci and streptococci, other organisms may at times become urea splitting, such as B. Coli and B. Pyocyanous, Metabolic disturbances such as gout, cystinuria and endogenous oxaluria cannot be overlooked as possible causes. We now come to the subject of diet and the ever present vitamins. Certain localities are said to be relatively free of stones. It is said the negroes of South Africa rarely have calculi and even in this country, Livermore has made the observation that negroes in and around Memphis are less subject to calculi than the rest of the population in that locality and the conclusion is drawn that this difference should be attributed to the high acid ash Vitamin A, diet and not to racial differences. Higgins, in Cleveland, has done a tremendous amount of work both with animals and with patients on the effect of Vitamin A deficiency and acid and alkaline diets. He was able to produce and dissolve stones in animals at will but in the human being the results were less startling, but he has proven, at least to his own satisfaction, that Vitamin A is an important etiological factor. Some workers believe that infection is almost the sole cause of calculi. Kroll guotes Eisenstaedt as saying that in 55 consecutive cases of urinary calculi he found an infective nucleus in each calculus, staphlococci predominating. I don't believe other workers have found this to be true but at the Massachusetts General Hospital, 41 percent of the patients had urea splitting organisms present in the urine.

Heredity may play a minor role in that malformations may possibly be transmitted. Ureteral stones are most often stones that have been passed from the Kidney. We may occasionally have a primary ureteral calculus as a result of a foreign body or a malformed and saculated ureter. In the bladder, stasis certainly plays a major role in stone forma-

*Read before the Section on Urology and Syphilology, Annual Session, Oklahoma State Medical Association, April 24, 1942.

tion, it is a fairly common complication of prostatism, of course, infection is always present too. Stones from the kidneys may pass into the bladder and remain and grow if there is an obstruction, such as an enlarged prostate. Foreign bodies remaining in the bladder become incrusted. Prostatic calculi are not uncommon and here again stasis and infection are important etiological factors. Urethral stones may be primary or secondary. Stones may become lodged in the urethra on their passage from the bladder or primary stones may form in pockets caused by strictures. So it behooves us to study our patient as a whole before we try to answer his question as to why he has a stone or whether he may have another. Two or three decades ago 50 percent of the patients had recurrent stones, at the present time, due to increased knowledge as to causes and better surgical procedures only about ten percent have recurrence.

Diagnosis: We usually think that it is easy to diagnose urinary calculi where ever located but it isn't always so simple. A stone in the urethra is nearly always easy to diagnose whether retention is complete or partial. Instrumentation reveals the presence of the stone. I don't recall ever having failed to make the diagnosis of stone in this locality. Prostatic stones are easily overlooked. The patient may be treated for a long time for prostatitis and cystitis without the recognition of the presence of stones in the prostate. If we would always make a plain x-ray picture of the K. U. B. region, nearly all of these cases would be diagnosed at once. In all urological cases where the diagnosis is in question the x-ray should be employed. Even then one may get the cart before the horse. I recall a patient with pyuria and hematuria, pyogenic organisms were found in the urine and sulfathiazole administered, the bacterae dis appeared but not the pyuria. Repeated examinations for tubercle bacilli were negative and an x-ray picture showed a prostate full of stones. A resection of the prostate with the removal of the stones was done without relief. On further cystoscopic examination after the operation many tubercles were seen in the bladder, removal of an old tuberculous kidney cured the cystitis. Moral: Don't jump at conclusions. Too often we see a single pathological condition and assume that that is the sole cause of symptoms, while it may be only a secondary condition. Some years ago a patient came to me complaining that he had been treated for gonorrhea for over a year without results. In those days that wasn't such an unusual occurrence, but on examination the only finding was pyuria and colon bacilli, he had had no urethral discharge for months but treatment for gonorrhea had been continued because of a cloudy urine. An x-ray picture showed a large stone in the right kidney and its removal promptly cured the pyuria. We should try to be alert and take nothing for granted. Ureteral calculi are not so easily diagnosed and here failure is sometimes excusable. A patient may have severe pain in the right lower abdomen, perhaps a slight elevation of temperature, urine clear or showing a few R. B. C. and a leucocytosis. A patient with such a syndrome may have a normal appendix removed and perhaps pass a stone the next day. I have seen a good many patients subject to right urinary calculi and in nearly all of them the appendix had been removed and I have always been suspicious that they had lost an appendix due to ureteral or renal colic. These cases often bear the marks of an emergency and it is perhaps more prudent to remove an inoffensive appendix than to spend too much time with diagnostic measures and allow a fulminating appendix to burst. Certainly a urinalysis should be made and if blood is found an x-ray picture should be made, as little time would be lost by such a procedure. Usually renal or ureteral colic is self-evident with pain radiating down the groin and into the bladder and genitalia, with urinary frequency. But all these symptoms might be caused by a retro-cecal appendicitis, including the hematuria. Renal calculi may be silent and only discovered by an x-ray examination for some other condition. These patients have a cloudy urine but this means nothing to many people, but if blood is passed they usually seek medical attention. More often they have recurrent attacks of renal and ureteral colic and frequently have pain in the lumbar region. Plain x-ray pictures will show about 95 percent of the calculi, Uretero-pyelograms will show a few additional percent of ureteral and renal calculi. In an article in the Journal of Urology of March 1942, Councill describes the use of the Teleprobe. By the use of this instrument he feels that these calculi can be found in 100 percent. How practical this method and instrument is for the neophyte, I am unable to say, but calculi would be found more often if we looked for them and could persuade our patients to have the necessary examinations made.

Having diagnosed a urinary calculus, what are we going to do about it? In many cases urinary calculi constitutes an emergency demanding prompt action. I had a patient brought in from a neighboring town with acute retention with a stone in the pendulus urethra. He was suffering intensely and the

stone was palpable through the walls of the penis, but dislodging it was a problem. One doesn't like to open that portion of the urethra. After considerable probing with numerous instruments including a metal stone dislodger, I managed to loosen it and I have never seen a more grateful patient in spite of the discomfort attending its dislodgement. A doctor came into my office one afternoon suffering with renal colic. I gave him morphine and it eased him somewhat and later in the evening he passed the stone into his bladder. Years later he told me that the next morning it lodged in his urethra and he was unable to void. He said he drank two or three bottles of beer and gave a big push and out it came. This practice is not to be recommended, as one might get considerable back pressure before relief could be obtained.

Stones in the prostate may be silent and cause no trouble, if they break through into the urethra, pockets form and cystitis and cystitis and urethritis arise. Perhaps the best form of treatment is prostatic resection. Stones in the bladder may be crushed or if too large, removed, suprapubically.

If accompanied by bladder incrustations it may be possible to dissolve both the stone and the incrustations by the use of a solution of sodium citrate and citric acid as described by Wilhelm and Levine.

Perhaps stone in the ureten constitutes the most common emergency. Most of these patients need relief and certainly want it quickly. Occasionally one is in doubt as to whether it is ureteral colic or appendicitis, but if the case is under close observation, it is fairly safe to give medicine for relief. I have usually resorted to morphine and atropine but Grayson Carrol has made a study of a pancreatic substance, on the market as Depropanex, that is said to stop ureteral contractions within three or four minutes, and usually the pain is relieved and does not recur quickly. A dose of two or three C.C. is injected intramuscularly. There are no ill effects noted. If one uses morphine, it usually takes from 15 to 30 minutes and often has to be repeated. After the pain is relieved the position and size of the stone should be ascertained and then the question is, what to do about it. About 66 percent pass without aid, the 33 or 34 percent have to have aid. Should we try by manipulation or resort to open operation? In some clinics over half the ureternal calculi are removed by open surgery. While in others, over 90 percent are removed by various engenious methods and instruments. Personally I've managed to dislodge those I've seen without resorting to open surgery but have regretted the occasional rather severe reactions, with chills and fever, but with the modern drugs, one should have less trouble in this respect. There is some danger of puncturing the ureteral wall and I believe it hazardous to pass metal instruments very high up the ureter, R. P. Finney reports a large number of ureteral calculi removed by lassoing the stone and using traction of less than five pounds and gradually pulling them out. I believe he failed only one in fifty odd cases.

I am inclined to feel that we should try to remove the stones by manipulation before resorting to an open operation.

Renal calculi of any magnitude will have to be removed by surgery and here again the least trauma and least harm done to the kidney the better off the patient will be. Many surgeons believe that if a stone is in a calix the calix should be removed by the method advocated by Lowsley. One should leave no blood clots or gravel, otherwise, there is sure to be recurrence. Once the stones are removed, or even before, the patient as a whole should be studied, the type of stone ascertained, and the amount of calcium in the urine determined. Focci of infection, should be sought especially about the teeth. If the stones are of the alkaline group put the patient on an acid ash, high Vitamin A diet, if of the acid group use an alkaline ash diet with Vitamin A, always with large amounts of water, if parathyroid disease is present attend to that. If there are strictures dilate them, remove prostatic obstruction when indicated and do not dismiss the patient as soon as the stone or stones are removed, have him return for a check up once or twice a year for two or three years.

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Restrictions on Quinine

The War Production Board has issued a conservation order affecting quinine and cinchona preparations. Physicians and pharmacists are advised that quinine or quinine salts and cinchona preparations are to be used only for the treatment of malaria fever and are to be dispensed for this purpose only upon a physician's prescription. Quinine may be used also for making urea or quinine hydrochloride.

Wholesale druggists and retail pharmacists will not be allowed to purchase the above mentioned products in quantities greater than 50 ounces. If your pharmacist is refusing to fill prescriptions for these drugs unless they are being used for the treatment of malarial fever, or, in the case of the exception, for making of urea and quinine hydrochloride, he is following the orders of the War Production Board.—Roland T. Lakey, Dean, College of Pharmacy, Wayne University, Detroit, Michigan.

• THE PRESIDENT'S PAGE •

The President's Page this month is dedicated to R. H. Graham, Executive Secretary of the Oklahoma State Medical Association, and is written in grateful recognition and acknowledgement of services well and faithfully rendered.

The Oklahoma State Medical Association has made a great contribution to our Government in the loan of our efficient Secretary, R. H. Graham, to the War Manpower Division, and it is a real sacrifice to the Association and its affairs.

At the present time, Dick is Administrative Assistant to Lieutenant Commander Max Lapham of the Procurement and Assignment Division of the War Manpower Commission. We do not doubt for one minute but that Dick will be of untold service to this important branch of the U. S. Government; for he will fit into this work like the glove fits the hand.

Dick has one of the brightest and most versatile minds it has ever been the writer's pleasure to know. He is a real fellow, a real red-blooded American, and in accepting this position, he does so at a real financial sacrifice to himself. But to this he gave no thought. He is anxious to serve where his services will benefit his Country the most.

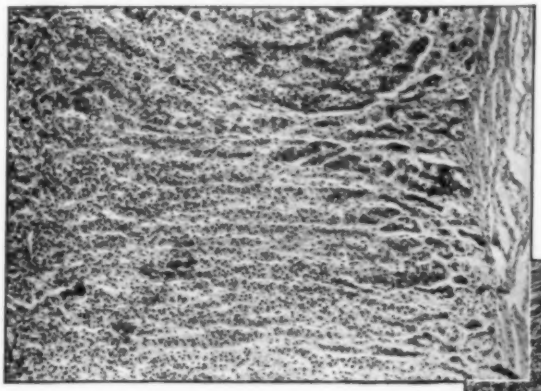
We of the Oklahoma State Medical Association say to you Dick, "remember, we will not only miss you and your services greatly, but we all anxiously look forward to that day when you will be safely returned to us, and to the State of Oklahoma. You have done a great piece of work, both for the public and the profession. God speed the day of your return."

Sincerely yours,

James D. Osborn

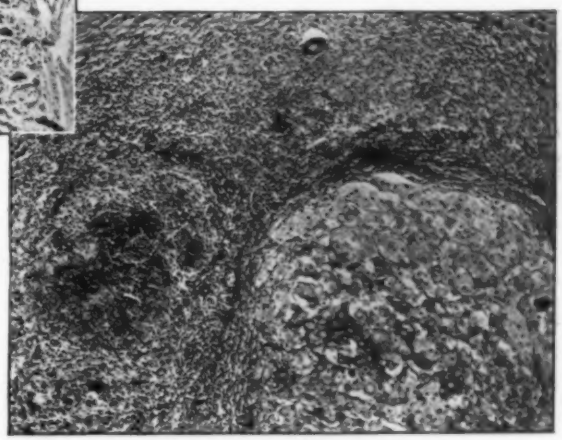
President.

ADRENAL CORTICAL HORMONES ESSENTIAL TO LIFE



Tuberculosis of the Adrenal

The original description of Addison's disease attributed the condition to tuberculosis of the adrenal. Recent autopsy series show that there may be other causes and that these account for a considerable proportion of the cases.



Normal Adrenal Cortex

The cortex of the adrenal gland is essential for life in human beings and in all animals which possess this gland. Its removal is fatal within a few days.

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Sterile Solution Adrenal Cortex Extract (Upjohn) is an extract of adrenal glands from domestic animals, containing the cortical steroids essential for the maintenance of life in adrenalectomized animals, but so purified that only traces, at the most, of epinephrine are present. Each cc. contains not less than 50 dog units of cortical activity (2.5 rat units) when assayed by the method of Cartland and Kuizenga (American Journal of Physiology 117:678, 1936).

Sterile Solution Adrenal Cortex Extract (Upjohn) is of value in cases of Addison's disease or of adrenal cortex insufficiency, and in surgical procedures involving the adrenal gland, such as removal of cortical tumors, as a prophylactic measure to prevent the development of symptoms of adrenal cortex insufficiency.

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EDITORIALS

R. M. ANDERSON — J. C. BUSHYHEAD PIONEERS

The Medical profession of Oklahoma has recently lost two "old-timers" who stood as outstanding exponents of all that is good in Medicine.

Because of their exemplary lives, their professional attainments, their sound ethical principles and their long record of commendable service, their names are again placed before the readers of the Journal.

Those who knew them intimately will appreciate this added recognition and those who were not so fortunate will be glad to know that truly they were among the doctors of the old school, loved and revered by all who knew them and that they weathered the transition from the "horse and buggy" era into modern practice, appropriating all the good in the new, while holding fast to all endearing qualities of the old.

Through a long professional career they were continuously honored by being wanted at the bedside, and rewarded by their unfailing response to the call of those who needed them, and finally, they were chastened by the cumulative sense of duty well done.

What a fine example for modern young men engaged in the pursuit of a merciful profession.

Chronologically they lived to a good old age but if we deduct the time they gave to the sick, they died young. If we consider the years they added to the lives of others through their ministrations they are more alive today than we are.

While we regret their passing, we are grateful for what they contributed to Oklahoma medicine and we shall always cherish their memory.

LIVER SHOCK

Long standing biliary tract disease always causes liver damage and these cases are always serious surgical risks and it is not always possible to accurately determine the extent of this liver damage.

Many tests have been devised to obtain a general estimate of the amount of hepatic functional damage, but it is so often the case that grave hepatic insufficiency will be precipitated by operation in cases where the tests for hepatic function are normal.

In those cases where there has been long standing jaundice of any degree in conjunction with a history of hepatic duct colic with common duct obstruction there is always serious hepatic damage and these cases should be considered poor operative risks and it is advisable to prepare them for serious liver shock following the operation.

The best method of preparing the liver to withstand the operative shock and decompression of the bile ducts is to protect it against any possible exigencies by assuring a high glycogen storage and a low fat content by giving the patient a diet for at least one week preoperatively consisting mostly of carbohydrates with the usual amount of proteins while the fats are cut to a very minimum. It has also been found that Vitamin K will usually affect the prothrombin concentration and reduce the incidence of troublesome bleeding although the hepatic damage will in some cases be so severe that it will have no effect. Bile salts are given before operation to supply the deficiency that has been present over a period of time and are of particular value during the period of preoperative preparation when the proper assimulation of the diet is so essential.

Opening and exploration of the common duct must always be done in a patient who is icteric or who gives a history of jaundice and this disturbance of the dynamics of the biliary tract is in itself enough to precipitate serious liver shock.

So often there is a history of a patient with a common duct obstruction due to the presence of stones whose liver functions tests are nearly normal and who has been adequately prepared, to withstand the initial shock of the operative proceedure, then within twenty-four hours to develop a hyperpyrexia and to die within forty-eight hours due entirely to hepatic insufficiency. Postmortum examination on these cases reveals little changes except in the hepatic cells themselves which reveal extensive damage due entirely to biliary retention.

In all surgery of the biliary tract it is best to prepare the patient as though there was extensive hepatic damage even if the functional tests are normal and this is best done by means of a high carbohydrate and low fat diet, with vitamin K and bile salts added.—E. E. R., M.D.

PROMETHEUS AND PARE

If we accept the old oddage "Necessity is the Mother of Invention," we must admit that war has ever been the cruel father of

necessity. Though at great cost, war does bring rare opportunities in the field of medicine and surgery.

We turn back the pages of history approximately four hundred years for a striking example. In the very beginning of his military career Pare was at Suse, a little place near Mont Cenis. It was in the year 1537. He was only 27 years old when he made a great discovery. Fortunately we have his own account of this experience: "The enemy within the castle, seeing our men come on them with great fury, did all that they could to defend themselves, and killed and wounded many of our soldiers with pikes, arquebuses, and stones: whereby the surgeons had all their work cut out for them. Now I was at this time a fresh-water soldier; I had not yet seen gunshot wounds at the first dressing. I had read in John de Vigo, book one, Of Wounds in General, chapter eight, that wounds made by fire-arms partake of venenosity, by reason of the gunpowder; and for their cure he bids you cauterize them with oil of elders, scalding hot, mixed with a little treacle. And to make no mistake, before I would use the said oil, knowing that it was to bring great pain to the patient, I asked first, before I applied it, what the other surgeons used for a first dressing; which was, to put the said oil, boiling well, into the wounds, with tents and setons: wherefore I took courage to do as they did. At last, my oil ran short; and I was compelled, instead of it, to apply a digestive made of yolks of eggs, oil of roses, and turpentine. In the night, I could not sleep in quiet, fearing some default in the not cauterizing, lest I should find those, to whom I had not applied the said oil, dead from the poison of their wounds; which made me rise very early to visit them: where, beyond my expectation, I found that they to whom I had applied my digestive had suffered but little pain, and their wounds without inflammation or swelling, having rested fairly well that night. The others, to whom the boiling oil was applied, I found feverish, with great pain, and swelling round the edges of their wounds. Then I resolved nevermore to burn thus cruelly poor men with gunshot wounds.

"When I was at Turin, I found a surgeon famed above all the rest for his treatment of gunshot wounds; into whose favor I found a way to insinuate myself, that I might have the recipe of his balm, as he called it, wherewith he dressed these wounds. And he made me pay my court to him for two years, before I could possibly get the recipe out of him. In the end, thanks to my gifts and presents, he gave it to me, which was this, to boil down, in oil of lilies, young whelps just born, and earthworms prepared with Venice turpentine. Then was I joyful, and my heart made glad, that I had learned his remedy, which was like that which I had obtained by chance."

"See how I learned to treat gunshot wounds: not out of books."

Now that thousands of young American doctors are face to face with the necessity of meeting the emergencies of war in all parts of the world, they should take courage and be inspired by the opportunity to learn new lessons, in the hard school of necessity.

Prometheus brought fire to suffering mortals, Pare had the good fortune to discover its misguided application and saved much suffering by taking it away. Quoting from Garrison's *History of Medicine.* "Pare's greatest contribution to surgery hinges on the baneful effect which the pseudo-hippocratic aphonism that diseases not cureable by iron are cureable by fire exerted on the treatment of gunshot wounds, the new feature of Renaissance surgery."

Pare was born of hard working people in 1510. He was a country boy, uneducated except through apprenticeship. For three or four years he was resident at Hotel Dieu. He was an Army surgeon for approximately twenty years. Ultimately he had a lucrative practice, and many court appointments. He was highly regarded and wielded a profound influence. Garrison said, "In personality, Pare stands between his surgical peers, the rude, outspoken Hunter and the refined, self possessed Lister, as a man equally at home in the rigors of camp life and the slippery footing of courts."

Pare's life not only supplies a good example of the opportunities which war brings to the army doctor but might well be accepted as a model for those who are casting about for guidance and anchorage. "Here is one who can praise without offense his own performances, and chronicle with proper pride his own words, and score off a fool, and relish his meat and drink: a shrewd, happy, confident, business-like gentleman, not wholly free, in a vain and cruel age, from vanity, nor incapable of cruelty, but steadily compassionate, humble, wise and honorable: and a true lover of his country, his home, and his profession."

In his life of eighty years Pare exhibited what the word Prometheus stands for. "Forethought".

"THIS DISEASE IS BEYOND MY PRACTICE"

No wonder Macbeth said, "Throw physic to the dogs; I'll none of it." Lady Macbeth's physician lacked initiative and imagination. He also manifested mental cowardice. He

admitted that his patient's disease was beyond his practice, and was content to say "infected minds to their deaf pillows will discharge their secrets. More needs she the divine, than the physician." Shirking his own responsibility he called upon God to "Look after her; remove from her the means of all annoyance, and still keep eyes upon her." Then he admitted, "My mind she has mated, and amazed by sight: I think, but dare not speak." Finally in answer to Macbeth's question he said she is "Not so sick my lord, as she is troubled with thick coming fancies, that keep her from rest."

This last provoked Macbeth's stinging indictment, "Canst thou not minister to a mind diseased; Pluck from the memory a rooted sorrow; Raze out the written troubles of the brain; And, with some sweet, oblivious antidote, cleanse the stuffed bosom of that perilous stuff, which weighs upon the heart?"

It was only after the doctor had bluntly replied "Therein the patient must minister to himself," that Macbeth threw the doctor and his physic to the dogs.

Even though we admit Lady Macbeth was demented, there is a lesson here for modern doctors who are called upon to meet the psychological problems arising out of these perilous times. Without fail we should call upon God for help but we should have powder and we should keep it dry. In other words we should be ready to meet mental aberations with patience, knowledge, skill and understanding. By so doing we may lift the burden "which weighs upon the heart".

The majority of neurotics must go untreated if they depend upon the specialists. Though it may sound like heresy to the experts, the family physician should be capable of analizing many of his psychological patients and interested in resolving their conflicts. At the same time he should be quick to recognize the need of institutional care and prompt in the recommendation of incarceration for the innocently hopeless and for those "possessed of the devil." It's amazing how a little common sense mixed with patience and experience may penetrate that mysterious realm which is never fully explored or actually charted even by the specialists.

"Are you a doctor?" asked the young lady, stepping into a drug store.

"Naw," replied the youth behind the white counter. "I'm just the fizzician."

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ASSOCIATION ACTIVITIES

OKLAHOMA CLINICAL CONFERENCE TO MEET OCTOBER 26-29

The Oklahoma City Clinical Society has completed its preparations for the twelfth annual conference to be held October 26, 27, 28, 29. In preparing the program this year, special effort has been necessary, and much additional work entailed because of the national emergency. The Society has been able, however, to secure speakers and teachers of unusual ability, and the caliber of the meeting is expected to exceed the excellent conferences of the past. Emphasis has been placed upon traumatic and industrial phases of medicine and surgery, which are particularly appropriate at this time. The guest speakers are:

Dr. James E. Paullin, President-Elect of the American Medical Association, of Atlanta, Georgia;

Dr. Isaac A. Bigger, Professor of Surgery and Surgeon-in-chief, Medical College of Virginia, Richmond, Virginia;

Dr. George M. Curtis, Professor of Surgery, Chairman of Department of Research Surgery, Ohio State University, Columbus, Ohio;

Dr. Frank H. Ewerhardt, Assistant Professor of Physical Therapy, Washington University School of Medicine, St. Louis, Missouri;

Dr. Frederick H. Falls, Professor and Head of Department of Obstetrics and Gynecology, University of Illinois College of Medicine, Chicago, Illinois;

Dr. Charles C. Higgins, Urology, Cleveland Clinic, Cleveland, Ohio;

Dr. Sara M. Jordan, Department of Gastro-Enterology, Lahey Clinic, Boston, Massachusetts;

Dr. John Albert Key, Clinical Professor of Orthopedic Surgery, Washington University School of Medicine, St. Louis, Missouri;

Dr. Byrl R. Kirklin, Professor of Radiology and Director of Division of Radiology, Mayo Foundation, University of Minnesota, Rochester, Minnesota;

Dr. Andrew W. McAlester, III, Ophthalmology, Kansas City, Missouri;

Dr. Donovan J. McCune, Associate Professor of Pediatrics, College of Physicians and Surgeons, Columbia University, New York, New York;

Dr. Frank J. Novak, Jr., Senior Attending Otolaryngologist, Henrotin Hospital, Chicago, Illinois;

Dr. Albert O. Singleton, Professor of Surgery, Medical Department, University of Texas, Galveston, Texas;

Dr. Tom D. Spies, Associate Professor of Medicine, University of Cincinnati College of Medicine, Cincinnati, Ohio;

Dr. Howard C. Taylor, Jr., Associate Professor of Obstetrics and Gynecology, New York University of Medicine;

Dr. Willard O. Thompson, Associate Professor of Medicine, University of Illinois Medical School, Chicago, Illinois;

Dr. Eugene F. Traub, Associate Clinical Professor of Dermatology and Syphilology, Skin and Cancer Unit, Post Graduate Medical School and Hospital, Columbia University, New York, New York.

Symposia presented by local physicians and discussed by guest speakers will continue to be most practical and stimulating.

Entertainment of the visiting physicians is not to be neglected, and the unique program for the annual smoker, "Hell's Broke Loose" promises to be a most hilarious evening.

Medical meetings of this type will necessarily be curtailed during the war period, and the Clinical Society therefore urges all physicians of the Southwest to avail themselves of these opportunities as they are presented.

The registration fee of $10.00 includes ALL the general assemblies, round table luncheons, dinner meetings, post graduate courses, and smoker, for registrants from outside Oklahoma City. Additional information may be obtained from the Secretary, 512 Medical Arts Building, Oklahoma City.

NORTHEASTERN OKLAHOMA CLINICAL SOCIETY HOLDS ANNUAL MEETING IN MUSKOGEE

The Northeastern Oklahoma Clinical Society held its annual meeting at the Severs Hotel in Muskogee on the evening of July 29, 1942, with approximately 70 members and guests in attendance. The Northeastern Society is comprised of the counties in the Eighth Councilor District: namely, Adair, Cherokee, Craig, Delaware, Mayes, Muskogee, Okmulgee, Ottawa, Sequoyah and Wagoner.

The program, which was conducted by the President of the Society, Dr. Isadore Dyer of Tahlequah, was centered around the problems confronting the practice of medicine in the present war emergency. The following speakers were presented: Lieutenant Colonel Robert A. Hale, Surgeon in Charge, Camp Hospital, Camp Gruber, Okla.; Dr. W. A. Moran, Medical Director, Oklahoma Ordnance Works, Chouteau, Okla., and Dr. Henry H. Turner, State Chairman, Procurement and Assignment Committee, Oklahoma City.

Colonel Hale discussed the function of a medical officer and the various tasks assigned to him in relation to the Army. The practice of medicine in industry with particular emphasis on problems concerning employees in a chemical plant was presented by Dr. Moran. Dr. Turner stressed the function of the Office of Procurement and Assignment and also pointed out the acute need of physicians for the Army.

Guests at the meeting included ten medical officers from Camp Gruber, among whom were Colonel E. A. Devers, Camp Surgeon, and Colonel Segard, Medical Commander of the 88th Infantry Division; physicians from the Oklahoma Ordnance Works at Chouteau; Dr. W. A. Howard of Chelsea, and Dr. Finis W. Ewing of Muskogee, both Past Presidents of the Oklahoma State Medical Association; Dr. Tom Lowry of Oklahoma City, Councilor of District No. 4, and Dr. L. C. Kuyrkendall of McAlester, Councilor of District No. 9, and Dr. James Stevenson of Tulsa, President-Elect of the State Medical Association.

Arrangements for the meeting were under the supervision of Dr. W. Jackson Sayles of Miami, Secretary of the Society, and Dr. Shade Neely of Muskogee made necessary arrangements for the banquet.

Officers elected to serve for the coming year are as follows: President, Dr. M. M. DeArman, Miami; Vice-President, Dr. J. S. Allison, Tahlequah, and Secretary, Dr. H. C. Ballantine, Muskogee.

TULSA COUNTY ANNUAL GOLF TOURNAMENT

Fifty guests were present at the Annual golf tournament and banquet of the Tulsa County Medical Society on Tuesday, July 28 at the Southern Hills Country Club, Tulsa.

The W. Albert Cook trophy was won by Dr. W. J. Bryan, Tulsa, and the Scotty Taylor trophy for runner-up was awarded to Dr. Paul Grosshart, also of Tulsa.

The committee responsible for all arrangements, in behalf of this entertaining event, was composed of Dr. Carl Simpson, chairman, Dr. W. A. Showman and Dr. W. Albert Cook.

MILITARY PHYSICIANS NOT EXEMPT FROM MALPRACTICE CLAIMS

The Judge Advocate General of the Army has held that members of the Army are entitled to the same civil rights of action between one another with reference to suits for malpractice and negligence as they would have been in civil life. Therefore, Doctors in the Service cannot safely discontinue such forms of malpractice insurance protection as they previously carried in civil practice.

The Medical Officer in the Army or Navy stands in no different position with respect to answerability to his patients than that of a Physician in civil practice.

A person in the Military Service may claim that an officer of the Medical Corps has in some manner been guilty of malpractice or negligence in treating or examining him in the line of duty. A similar claim may be pressed against an examining Physician for local Selective Service Board by a selectee called before that Board. The fact that a person is in the Military Service, or is in the course of being inducted therein, does not prevent him from asserting his civil rights as long as the interests of the National Defense are not concerned.

The Judge Advocate General of the Army has indicated that it is not customary for the War Department itself to defend a civil suit for malpractice brought against a member of the Medical Corps, but that the defendant medical officer has the right to have the case removed to a Federal Court and request the Department of Justice to furnish a United States Attorney to defend him.

If, however, a judgment was to be rendered against such a medical officer defendant, there is no provision by law by which the judgment could be paid by the government, or by which the defendant physician could be reimbursed by the government. The trial of such actions in Federal Courts is provided for in the 117th Article of War.

Therefore, since patriotic cooperation may be expected from all persons and malpractice suits in the Military Service are not as frequent as in civil life, the London & Lancashire Indemnity Company has agreed to reduce all malpractice premium rates 50 percent for Physicians while in the armed forces of the United States.

If a Doctor is planning to enter the Service and at the present time already has a London & Lancashire Indemnity Company Malpractice Policy or Certificate, please notify the local insurance agent who wrote the business, or address Eberle & Company, State Managers, Midwest Building, Oklahoma City, and a rider will be attached to the Policy or Certificate allowing the reduction, and refund will be made on a pro rata basis.

DR. GEORGE OSBORN NAMED COUNCILOR SOUTHERN MEDICAL

Dr. George R. Osborn, prominent Tulsa physician, has been named to fill the vacancy as Councilor of the Southern Medical Association occasioned by the death of Dr. Robert M. Anderson of Shawnee.

Dr. Osborn will serve the two unexpired years of the original five-year term of Dr. Anderson. He will represent the state of Oklahoma at the annual meetings, the next of which will be November 10-12 at Richmond, Virginia.

The appointment was made by Dr. M. Pinson Neal of Columbia, Missouri, President of the Association. Dr. Osborn is a graduate from the University of Illinois College of Medicine in 1906, and limits his pracitce to obstetries and gynecology. He is a past president of the Oklahoma State Medical Association and the Tulsa County Medical Society.

Dr. Paul C. Gallaher of Shawnee reported for duty on September 3 as Lieutenant, junior grade, in the United States Naval Hospital at Oakland, California. Dr. Gallaher has been classified as an assistant surgeon in the Navy.

DICK GRAHAM IN WASHINGTON AT PRESENT TIME

In January of 1939, Mr. R. H. Graham came to Oklahoma from our neighboring state of Kansas as Executive Secretary of the Oklahoma State Medical Association.

Prior to the establishment of the executive office at 210 Plaza Court, Oklahoma City, in 1939, all records of the Association were maintained in the office of the Constitutional Secretary-Treasurer. Since that time the amount of service rendered through the full-time executive office to the doctors throughout the state as well as other states has continued to increase in volume.

During the first part of August, Dick was offered an appointment as assistant to Lieutenant Commander Max Lapham, Assistant Executive Director of Procurement and Assignment Service in the War Manpower Commission, Washington, D. C., and is serving in that capacity as a loan from the Oklahoma State Medical Association at the present time.

During his absence, Miss Anne Betche, who has been Mr. Graham's secretary for the past year and a half, will be in the office of the Association and will be willing, at all times, to assist and cooperate in every way possible in serving the doctors of the State. Correspondence requesting attention from the state office may be directed to either Mr. R. H. Graham or Miss Anne Betche.

CLEVELAND COUNTY MEDICAL SOCIETY ELECTS OFFICERS

At a special meeting of the Cleveland County Medical Society on August 2, 1942, in Norman, called by Dr. M. P. Prosser, an election of officers was held to fill the unexpired terms of those elected at the beginning of the year, but all of whom are now serving in the armed forces.

The following are the newly elected officers: President, Dr. Joseph A. Rieger; Vice-President, Dr. Felix Gastineau; Secretary-Treasurer, Dr. Curtis Berry; and Delegates, Dr. Joseph A. Rieger and Dr. Curtis Berry. According to the action of the Society, another election will be held in January at which time officers for 1943 will be elected.

Prior to the August meeting, Dr. F. C. Buffington was President, Dr. M. P. Prosser was Vice-President, Dr. Phil Haddock was Secretary-Treasurer and Dr. Buffington and Dr. Haddock were the Delegates. The above mentioned have been ordered to active duty at Jefferson Barracks, St. Louis, Mo., Camp Gruber, Okla.; and Camp Claiborne, Alexandria, La., respectively.

At a recent meeting of the Pottawatomie County Medical Society held at Shawnee on August 15, 1942, the following motion was unanimously adopted by the members of the Society: "All members of Pottawatomie County Medical Society in good standing will be retained on the rolls without payment of dues when and if they assume duties with the armed forces of the United tSates." Motion carried. Ten members of the Society were present at the meeting.

CHANGES OF ADDRESS

Help your State Office to maintain an accurate mailing list. Send changes of address promptly to The Journal, 210 Plaza Court, Oklahoma City, Oklahoma.

COLORADO CANCELS ANNUAL MEETING

The Seventy-Second Annual Session of the Colorado State Medical Society, scheduled to be held in the Broadmoor Hotel, Colorado Springs, on September 23-26, 1942, has been cancelled by an order of the Board of Trustees.

The Society will be called to order at 4:00 P.M., September 23, in the Shirley-Savoy Hotel, Denver, for such part of the meeting as is legally necessary. The House of Delegates will meet the same evening at 8:00 P.M., and again the following morning to transact annual business. A noon luncheon on September 24 will conclude the meeting. The Women's Auxiliary was also asked to cancel all plans except necessary meetings of business bodies.

The decisions were made primarily because of government requests that all conventions not vitally necessary to the war effort be cancelled in order to reduce unnecessary travel. Further, it was the determination of the Trustees meeting jointly with the Committee on Scientific Work, after careful study, that 25 percent of the Society's membership would be in the military service by mid-September and that most of those remaining to care for the civilian population would be too busy to attend. It was also further determined that an exceptionally small registration would be an imposition to both the speakers as well as the exhibitors.

Central Association of Obstetricians and Gynecologists Will Meet in Des Moines

The fourteenth annual meeting of the Central Association of Obstetricians and Gynecologists, on invitation of the Iowa Obstetric and Gynecologic Society, will be held at the Hotel Fort Des Moines in Des Moines, October 22-24, 1942. The program will be conducted by national leaders in these two specialties.

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY WILL HOLD EXAMINATIONS

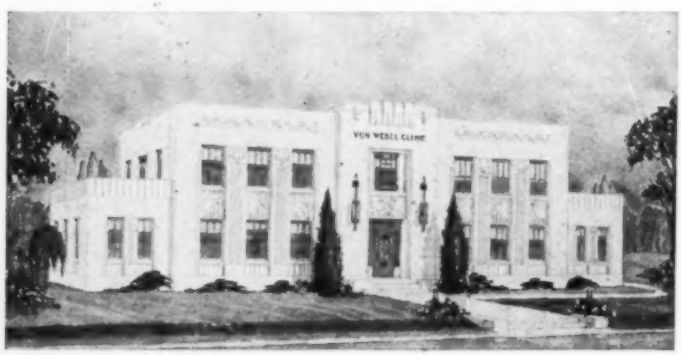
The next written examination and review of case histories (Part I) for all candidates will be held in various cities of the United States and Canada on Saturday, February 13, 1943, at 2:00 P.M. Candidates who successfully complete the Part I examination proceed automatically to the Part II examination held later in the year. All applications must be in the office of the Secretary by November 16, 1942.

Effective this year there will be only one general classification of candidates, all now being required to have been out of medical school not less than eight years, having in that time completed an approved one year general rotating internship and at least three years of approved special formal training, or its equivalent, in the seven years following the interne year. This Board's requirements for internships and special training are similar to those of the American Medical Association since the Board and the A. M. A. are at present cooperating in a survey of acceptable institutions. All candidates must be full citizens of the United States or Canada before being eligible for admission to examinations.

All candidates will be required to take the Part I examination, which consists of a written examination and the submission of twenty-five (25) case history abstracts, and the Part II examination (oral-clinical and pathology examination). The Part I examination will be arranged so that the candidate may take it at or near his place of residence, while the Part II examination will be held late in May 1943, in that city nearest to the largest group of applicants. Time and place of this latter will be announced later.

For further information and application blanks, address Dr. Paul Titus, Secretary, 1015 Highland Building, Pittsburgh (6), Pennsylvania.

VON WEDEL CLINIC



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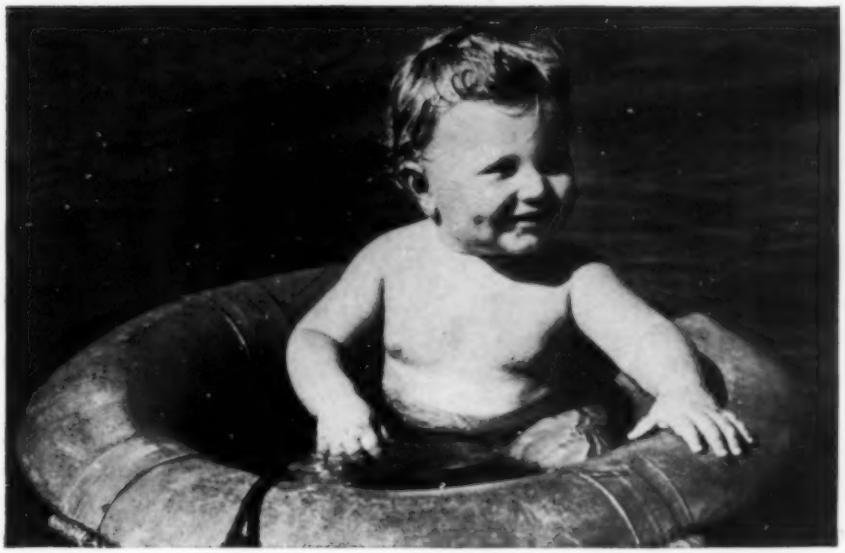

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WOMEN'S AUXILIARY NEWS

The Woman's Auxiliary is an affiliate of the American Medical Association, and is organized only to assist in its work and under its direction. The organizational structure of the Auxiliary is somewhat similar to that of the American Medical Association and its committees must of necessity outline their programs, but likewise of necessity must correlate their interlocking activities. Although there is more or less need for activities of various committees, yet each is essential to the organization. The officers and members of the board should attempt to correlate activities in order to meet the needs and the most important problems at any given time.

Auxiliary members must be familiar with the organization of the American Medical Association and with the accomplishments of the various councils, committees and bureaus, if they are to function in the true realm of an auxiliary organization and lend the greatest aid as such to the parent body. This familiarity will also permit them to be of greater assistance to their own County Medical Societies and State Medical Associations.

The national Woman's Auxiliary is now organized in 41 states and has been in existence since 1922. As early as 1917, there was an auxiliary organized in Shawnee, Oklahoma, and Oklahoma has had a state organization since 1928. At the present time, there are ten counties organized in the state, with a total membership of 360. One of the primary goals for the State Auxiliary this year is to form Auxiliaries in our unorganized counties.

TULSA COUNTY NEWS

Mrs. J. W. Childs, President of the Tulsa County Auxiliary, has been confined to her home the past month due to illness. We hope to be able to report soon that she has completely recovered.

Lieutenant-Commander and Mrs. Karl F. Swanson have moved to Corpus Christi, Texas, where Commander Swanson is serving with the United States Navy.

Dr. E. Rankin Denny, who has been commissioned a Major in the United States Army, is now stationed at Camp McCoy, Wisconsin, and Mrs. Denny and the children have joined him.

Dr. J. D. Shipp is now a Lieutenant Senior Grade in the United States Navy, stationed at Oklahoma City, and Mrs. Shipp and the children are now making their home in Oklahoma City.

Mrs. D. L. Edwards and son expect to remain in Tulsa while Dr. Edwards is serving as a Captain in the United States Army at Will Rogers Field in Oklahoma City.

Dr. J. E. McDonald has been commissioned a Major in the United States Army Air Corps, to be located in Atlantic City, New Jersey, and Mrs. McDonald and the children will remain in Tulsa.

Dr. B. L. Branley has gone to Corpus Christi, Texas, where he is serving as Lieutenant-Commander in the United States Navy. Mrs. Branley and Judy will remain in Tulsa temporarily.

At this time, when many of our doctors and their wives are being transferred to various parts of the United States in the service of their country, it would be a fitting courtesy for our Auxiliaries to invite these "transplanted" wives to attend our Auxiliary meetings and to enjoy the fellowship of our members, as they will be very much in need of all friendliness and courtesy we could possibly show them.

A nutrition class has been sponsored in Tulsa by the Tulsa County Auxiliary, during the summer months. Mrs. I. H. Nelson, one of the Auxiliary members, is general supervisor for the nutrition program for the Red Cross in Tulsa County. This nutrition course has been recommended by our National organization as an active part of this year's work.

LEFLORE COUNTY NEWS

The LeFlore County Auxiliary reports the following new officers: President, Mrs. E. L. Collins, Panama; President-Elect, Mrs. Neeson Rolle, Poteau; Vice-President, Mrs. S. D. Bevill, Poteau, and Secretary-Treasurer, Mrs. Earl M. Woodson, Poteau. This Auxiliary has been quite busy preparing a quota of Red Cross sweaters for shipment by August 15.

CLEVELAND COUNTY NEWS

The Cleveland County Auxiliary has sponsored a Red Cross course in home nursing, which has been taught by one of their members. This entire Auxiliary is very active in Red Cross work.

PONTOTOC COUNTY NEWS

The Pontotoc County Auxiliary reports the following new officers for the coming year: President, Mrs. M. L. Lewis, Ada; Vice-President, Mrs. W. F. Dean, Ada; Secretary, Mrs. Ollie McBride, Ada; Treasurer, Mrs. I. L. Cummings, Ada.

We have not yet received the names of the various publicity chairmen for the County Auxiliaries, and we should like very much to have these names, as well as any news they may have to send in. Please cooperate with us on this publicity, if you want your county represented on this page each month.

Two films, "The Warning" and "Defending the City's Health," are now available through the State Office of Civilian Defense for showing. These films may be utilized by County Medical Societies for their programs. For more detailed information see page 396.

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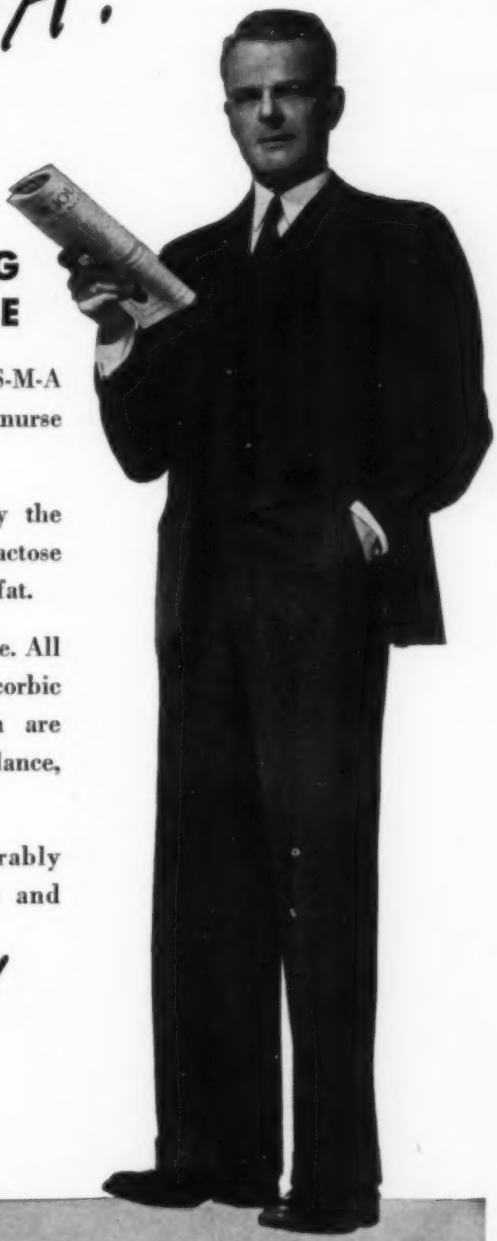

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MEDICAL PREPAREDNESS

Questions and Answers on Procurement and Assignment Service*

Until special studies now under way are completed, it has been agreed by the Board of Procurement and Assignment Service for Physicians, Dentists and Veterinarians in answer to the question of how many people in a community can be served by one man, that for general medical service approximately one "effective" physician to fifteen hundred population is the minimum coverage that should be provided. Limited specialists are not included in the above basic figure. It is explained that a special committee of the Procurement and Assignment Service is making studies to serve as a basis for the determination of minimum quotas of medical service which should be retained for the civilian population.

The following are questions and answers contained in the special statement:

Q. Will the Procurement and Assignment Service protect a doctor from the draft?

A. The Procurement and Assignment Service was not established to protect anybody from anything. Its function is to enroll physicians, dentists and veterinarians and assign them to the positions in which their services will be of greatest value to the nation in the war emergency. This function obviously parallels the responsibilities of Selective Service, but the officials of the Selective Service have welcomed the cooperation of the Procurement and Assignment Service in dealing with these professional groups. To implement this cooperation, General Hershey issued a memorandum to Selective Service boards asking them to secure through the state director of Selective Service the recommendations of the Procurement and Assignment Service wherever they are considering the classification of a physician, dentist or veterinarian. Hence, if a doctor has enrolled with the Procurement and Assignment Service, his Selective Service board will be so advised and a recommendation for his deferment, until his services are needed in a professional capacity, will be made.

Q. Will men under 45 be called before men over that age will be considered?

A. The Army will consider applications for commission from men up to the age of 55 and the Navy up to the age of 50. The greatest need, however, is for younger men. Hence, the first call by the Procurement and Assignment Service will be for men under 36 and then men between 36 and 45 years of age.

Q. If a physician is physically disqualified for a commission, is he still subject to the draft?

A. The physical requirements for officers are higher than they are for enlisted men, but under the modified requirements for "limited service" in the Medical Corps most, if not all, physicians who meet the requirements for enlisted men will be eligible for commissions. If not, the physician concerned should consult the chairman of his State Procurement and Assignment Service Committee relative to service in a war industry or some other essential civilian service.

Q. How much consideration will be given to the choices of service listed on the enrolment form of the Procurement and Assignment Service?

A. So far as possible, the choices of service listed on the enrolment form will be given consideration. However, if the needs of the armed forces demand it, it may at times be necessary to ignore personal preferences.

Q. Do physicians in shipbuilding ad airplane factories receive any special consideration?

A. Essential medical service in vital war industries must be maintained. To do this, certain medical positions must be declared essential. Individual physicians who are of military age and physically fit for service should be declared essential in such positions only if it is impossible to replace them or have the necessary service provided by men not otherwise available for service with the armed forces.

Q. In determining the number of physicians needed to care for the civilian population, are rural communities considered on the same basis as larger cities?

A. A special committee is now working on the determination of minimum quotas of physicians for civilian medical care. In their studies consideration will be given to the density of the population, the ease of transportation, the availability of hospital service and other factors.

Q. Will doctors in draft age be called by the Procurement and Assignment Service on the basis of availability regardless of their Selective Service numbers?

A. In asking physicians to accept assignments, the Procurement and Assignment Service will select names by chance from alphabetical lists of the names of the physicians in the age group desired. Officials of national headquarters of Selective Service report that it is impossible to use Selective Service order numbers for this purpose. The first lists to be given assignments with the Army or Navy will be those who have indicated these services as their first choice.

Q. How many people in a community can be served by one man?

A. Studies are in progress by a special committee of the Procurement and Assignment Service to serve as a basis for the determination of minimum quotas of medical service which should be retained for the civilian population. Until these studies are completed it has been agreed that, for general medical service, approximately one "effective" doctor to fifteen hundred population is the minimum coverage that should be provided. Limited specialists are not included in this basic figure.

Q. Is it true that unless an intern for 1942-1943 has a commission in the Army or Navy he may be withdrawn at any time?

A. National headquarters of Selective Service has advised local boards that medical students and interns who wish deferment and are physically enabled should apply for the commissions which are available to them.

RECRUITING BOARD WITHDRAWN

The procurement of medical doctors for the Army in the State of Oklahoma has proceeded in a satisfactory manner. The Medical Recruiting Board, under the direction of Colonel Lee R. Wilhite, representing the Surgeon General, and Captain Oliver H. Cornelius of the Office of the Adjutant General, appointed by an order from the Adjutant General's office, Washington, D. C., as a full-time board, has been discontinued in this state and an immediate intensive recruiting drive is not anticipated.

All incomplete applications that were pending at the time of the discontinuance of the Board were forwarded to the Surgeon, Eighth Corps Service Command, Fort Sam Houston, San Antonio, Texas.

Should your application for a commission not have been completed, please address your inquiry to the Surgeon at San Antonio.

In view of this, interns who are physically fit and do not hold commissions may be subject to induction.

Q. What percentage of a man's time devoted to medical teaching is necessary to make him essential?

A. The determination as to whether an individual is an essential teacher cannot be put on a percentage basis. Some teachers on a full time basis cannot justifiably be considered essential, while others giving a much smaller proportion of time might be essential. In general, however, very special circumstances should exist to justify designating a physician of military age as an essential teacher unless he is devoting at least half time to teaching.

Q. Is the local draft board or the Procurement and Assignment Service to determine whether a doctor is necessary in his local community?

A. The legal responsibility for deciding whether any individual who is registered with Selective Service shall be given deferment rests with his local Selective Service board. However, General Hershey has directed local boards, when considering the classification of physicians, dentists or veterinarians, to secure the advice of the state committee of the Procurement and Assignment Service as to whether the individual under consideration is "essential" for the care of the civilian population in his community or whether he can be considered available for service elsewhere.

A. How many physicians are there in the United States under 35 years of age? Under 45?

A. Of the 152,923 physicians in private practice in the continental United States, 37,753, or 24.7 percent, are under 35 years of age, 35,240, or 23.0 percent, are 35-44 years of age, 24,573, or 17.4 percent are 45-54 years of age, 26,076, or 17.1 percent, are 55-64 years of age, 11,915, or 7.8 percent, are 65-69 years of age, 8,112, or 5.3 percent, are 70-74 years of age and 7,233, or 4.7 percent are 75 and over.

Q. Do you expect the needs of the armed forces to be filled by voluntary enlistment? If not, what is to be the procedure?

A. It is the firm conviction of the direction board of the Procurement and Assignment Service that the physicians of this country will willingly accept the assignments requested of them in meeting the medical needs of the nation during the war emergency. The executive order of the President establishing the Procurement and Assignment Service states that Mr. McNutt may "instruct the Agency to draft legislation, which may be necessary to submit to the Congress providing for the involuntary recruitment of medical, dental and veterinary personnel, in the event the exigencies of the national emergency appear to require it." The directing board, however, has given no thought to such legislation because it is convinced that it will not be necessary.

Q. In what grade may a doctor expect to receive a commission?

A. The policy which is being followed by the Office of the Surgeon General of the Army in making recommendations for commission is as follows:

1. All appointments must be limited to the quotas provided for medical personnel of various ranks in relation to the total over-all size of the Army.

2. All appointments in tactical units will be at minimum grades of first lieutenant, as no experience in civilian life qualifies a doctor for service in this capacity.

3. Appointments above the minimum grade will be made only on the basis of vacancies, special qualifications and there being no one qualified to fill the position by a promotion.

FIRST LIEUTENANT. All appointments under 37 will be in this rank except for individuals who possess special qualifications for a particular vacancy which exists. Certification by specialty board will be considered evidence of such special qualifications. Applicants who previously held appointments in the Medical Reserve Corps in the rank of captain may apply for reappointment at the same rank.

CAPTAIN. Initial appointees at the age of 37-45 may apply for this rank. Likewise, men under 37 with special qualifications.

MAJOR. Age 37-55. Eligible applicants must have the special qualifications required for appointment as captain and in addition experience and training which qualifies the individual as chief of a service or section, or executive of a large hospital.

LIEUTENANT COLONEL AND COLONEL. New applicants will be made in these ranks only for special assignments which cannot be filled by promotion.

Signed for the Board,

Procurement and Assignment Service,

Frank H. Lahey, M.D., Chairman.

*Taken from the Journal of the American Medical Association, Vol. 119, No. 11, July 11, 1942, Page 888.

SELECTIVE SERVICE AND ITS MEDICAL PROBLEMS

A recent announcement that a program for rehabilitation of those rejected by Selective Service as physically unfit is to be submitted to the War Manpower Commission rather than undertaken by Selective Service is commended by The Journal of the American Medical Association for August 8.

In papers presented at the annual session of the Association in Atlantic City in June and published in the August 8 issue of The Journal of the Association, Major Gen. Lewis B. Hershey, Director of Selective Service, and Col. Leonard G. Rowntree, M.D., Chief of the Medical Division of Selective Service, told of the rehabilitation program test which was conducted in Maryland, Virginia. They said that the results obtained there did not warrant the adoption of the program by Selective Service, but that rehabilitation is a method by which the nation's manpower may be made more efficient. Commenting on the announcement, The Journal says:

"Elsewhere in this issue appear two contributions of great importance to the medical profession. From the moment when Selective Service first began to function, the complete cooperation of physicians was tendered to it. The calm judgment of General Hershey and the work of his medical staff in the National Headquarters have been outstanding for their wisdom and efficiency. Although innumerable attempts have been made to stampede the Selective Service System into various welfare programs—venereal disease, prehabilitation, rehabilitation, physical fitness and what not—its leaders have held steadfastly to their main objective—the securing of a sufficient number of men sufficiently fit to meet the varying needs of the armed forces. As pointed out by both General Hershey and Colonel Rowntree, the Selective Service System has at the same time cooperated fully in maintaining both premedical and medical education, in retaining essential physicians for teaching and the civilian population, and in the conduct of pilot experiments to determine the worthiness of such programs as prehabilitation and rehabilitation is 'one of the methods by which our manpower may be made more efficient' but that 'the results obtained to date do not justify a program of physical rehabilitation by Selective Service.' The program is therefore being submitted by General Hershey to the War Manpower Commsision. The medical profession will commend the type of scientific study and decision that have been exemplified by the leaders of Selective Service in this phase of their work. The procedure may well serve as a model for a functioning democracy."

E. R. Squibb and Sons of New York have recently forwarded a handbook to each of the Chiefs of Emergency Medical and Hospital Service through their field representatives. This reference book is entitled, "Physicians' Reference Book of Emergency Medical Service", and is a digest of first-hand medical experience in handling many news problems that have arisen in connection with aerial warfare.

Office of Civilian Defense

FILMS ON CIVILIAN DEFENSE AVAILABLE

The Chairman of the State Health and Housing Committee, Dr. Grady F. Mathews, has in a recent announcement to County Chiefs of Emergency Medical Service made known that two films are now available for showing without cost.

One film, entitled "*The Warning,*" portrays the reality of an air-raid on a typical British city and the destruction that accompanies it followed by the task of restoration as performed by the work of the military and organized civilian defense corps. The other film, "*Defending the City's Health,*" in which is stressed the role of the individual citizen in a health program, shows the work of a model city health department, including education, gathering statistics, nursing, supervising sanitation, laboratory analysis, child hygiene, and a comprehensive sequence on the control of communicable diseases.

The showing of these films should be under the auspices of the local Emergency Medical Service of each County Office of Civilian Defense, and need not be confined to individual groups. In addition to the personnel of the individual County Civilian Defense Committee, it is suggested that the general public be invited. In order to secure a large attendance, publicity may very nicely be conducted through the general county chairmen of civilian defense by the local publicity agent.

A representative from the State Office of Civilian Defense and necessary equipment will accompany the pictures to each county, and will do the showing unless arrangements for this service have been made through the local theaters. There is no limit to the number of showings of the films in a given county.

Showings in various counties will be scheduled according to the order in which they are received. All aplications should be sent to Committee on Health and Housing, 417 State Capitol, Oklahoma City.

RELATION OF EMERGENCY SERVICES TO INDUSTRIAL PLANTS*

The Office of Civilian Defense, Washington, D. C., in Medical Division memorandum No. 14, points out that the primary responsibility for the protection of industrial plants rests on the operators, owners and local and state governments. The War and Navy departments have included in their program the responsibility for recommending protection in certain civilian plants engaged in the production of war material. The War and Navy departments have requested all civilian manufacturing plants having important war contracts to cooperate with the local Emergency Medical Service of the U. S. Office of Civilian Defense.

All industrial plants are expected to provide medical services and first aid equipment within the plant for the care of the injured. The Office of Civilian Defense recommends that each industrial plant, in addition to providing its own medical staff and first aid equipment, should plan in collaboration with the chief of Emergency Medical Services of the locality for (1) services of ambulances and emergency medical field units when needed, (2) available beds at one or more hospitals to which the severe casualties may be transported, (3) the establishment of a casualty station of the Emergency Medical Service within a short distance of the plant and (4) obtaining the services of emergency medical field units if needed to supplement the plant medical service during an emergency.

If a plant is miles from a hospital and there is a possibility that the injured might be obliged to remain at the casualty station for hours before transfer to the hospital, the casualty station should be larger than the average for a given number of employees and be adequately equipped. It must have cots, blankets, water and heating facilities and be equipped at least with the emergency medical supplies outlined in Medical Division bulletin No. 2, equipment lists 1 and 2.

To implement these instructions, section V of Medical Division bulletin No. 4 is amended to include the following additional duties of the local chief of Emergency Medical Service:

During the period of preparation:

6. Protection of Industrial Plants. (a) Advising all employers concerning adequate emergency medical protection to be afforded within industrial, commercial and service installations, including location of casualty stations and medical supplies where needed. (b) Arranging for direct telephone lines between important installations and control center to facilitate evacuation of casualties and to provide emergency medical service with the minimum of delay.

**Taken from the Journal of the American Medical Association. Vol.* 119, *No.* 16, *Page* 1378, *August* 15, 1942.

Conference on Venereal Disease Control Needs in Wartime

Venereal disease and America's war effort will be discussed by high-ranking medical officers of the War and the Navy Departments, prominent physicians, health officers and others at a Conference in Hot Springs National Park, Arkansas, October 21-24, 1942. Headquarters will be at the Arlington Hotel.

The Conference will be held under the auspices of the United States Public Health Service in conjunction with the Eighth Annual Meeting of the American Neisserian Medical Society, Surgeon General Thomas Parran will preside. State and local health officers, venereal disease control officers, practicing physicians, and all others engaged in venereal disease control activities are urged to attend.

Subjects for discussion will include venereal disease control measures influencing the war effort, epidemiology of syphilis and gonorrhea—1942, wartime venereal disease control education, research influencing the wartime venereal disease control program, and technics of venereal disease education.

Governmental, professional and health organizations to be represented at the Conference include: the War Department, the Navy Department, the Social Protection Section of the Office of Defense Health and Welfare Services, the American Medical Association, the American Neisserian Medical Society, the American Social Hygiene Association, State and local health departments, and the United States Public Health Service.

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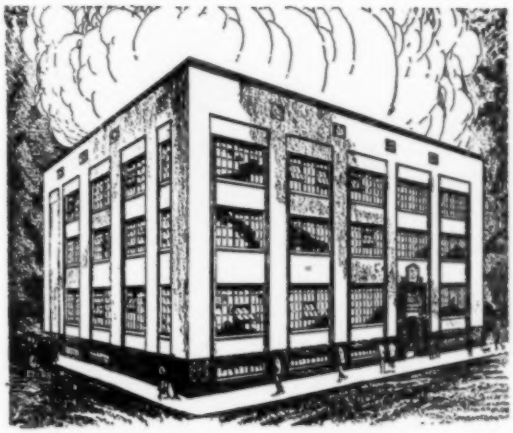

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University of Oklahoma School of Medicine

There have been a number of changes in the Faculty of the School of Medicine, due to resignations and leaves of absence. Leaves of absence have been granted to all of the members of the Faculty who enter the Army or the Navy. The resignations from the Faculty have been among the full-time members. Dr. I. S. Danielson, Associate Professor of Biochemistry, has resigned to accept a position with Lederle Laboratories. Dr. Carl Bunde, Assistant Professor of Physiology, resigned to accept a similar position at Baylor University Medical School. Dr. Irwin C. Winter, Associate Professor of Pharmacology, resigned to accept a position with the Council on Pharmacy and Chemistry of the American Medical Association. Dr. Alton Clair Kurtz has been appointed as Assistant Professor of Biochemistry. Dr. Kurtz is coming here from the University of Pennsylvania, where he has been on the faculty of the school of medicine. Dr. O. Boyd Houchin has been appointed Instructor in Pharamacology. Dr. Houchin just recently completed his training at the State University of Iowa.

The first year class which will report for their physical examinations on September 10, 1942, and who will enroll on September 11 and 12, consists of seventy-five (75) residents of the State of Oklahoma. No non-residents have been admitted to the first year class on account of the large number of qualified residents of the State that have applied for admission. It is assumed that all of the accepted applicants will enroll.

A considerable number of repairs have been made to the School of Medicine Building during the summer months. One of the most important items was the correction of the acoustics in the auditorium of the Medical School Building.

General Robert U. Patterson, Dean of the School of Medicine, is vacationing in California during part of the month of August.

• *OBITUARIES* •

Resolution
Dr. J. C. Bushyhead
1870-1942

WHEREAS, Dr. J. C. Bushyhead had long been among us and had, at all times, taken a very active part in his chosen profession, and in all civic programs of our community, and

WHEREAS, Dr. J. C. Bushyhead has served his profession as President of our local organization at various and sundry times, and

WHEREAS, Dr. J. C. Bushyhead has given unstintingly of his time and ability to the people of our community regardless of financial conditions, and

WHEREAS, through his cheerful manner and gracious attention to his patients, everyone in and out of the profession had learned to love him,

THEREFORE; BE IT RESOLVED by the Rogers County Medical Association that in the death of Doctor Bushyhead the Medical Profession has lost a stalwart member, the community a great character, and his wife and family a devoted and loving husband and father.

BE IT FURTHER RESOLVED: That a copy of these resolutions be spread on the minutes of the Rogers County Medical Association, a copy furnished the family, and a copy given to the press.

George D. Waller, M.D.
Secretary.

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COUNTY HEALTH SUPERINTENDENTS

County	Superintendent	Address	Director Of County Unit Or District	Address	No. of Counties In Organized Unit Or District
Adair	Church, R. M.	Stilwell	Gray, James K.	Tahlequah	4
Alfalfa	Lancaster, L. T.	Cherokee	None		
Atoka	Huntley, H. C.	Atoka	Huntley, H. C.	Atoka	1
Beaver	Long, L. L.	Beaver	Nicholson, J. L.	Guymon	3
Beckham	Baker, L. V.	Elk City	None		
Blaine	Anderson, H. R.	Watonga	Anderson, H. R.	Watonga	1
Bryan	Sizemore, Paul	Durant	Sizemore, Paul	Durant	1
Caddo	Preston E. Wright	Anadarko	Preston E. Wright	Anadarko	1
Canadian	Johnson, A. L.	El Reno	None		
Carter	Canada, J. C.	Ardmore	Canada, J. C.	Ardmore	1
Cherokee		Tahlequah	Gray, James K.	Tahlequah	4
Choctaw	Gregg, O. R.	Hugo	Gregg, O. R.	Hugo	2
Cleveland	Gertrude Nielsen	Norman	Gertrude Nielsen	Norman	1
Cimarron	Hall, H. B.	Boise City	Nicholson, J. L.	Guymon	3
Coal	Hipes, J. J.	Coalgate	None		
Comanche	Gerchick, E. H.	Lawton	Gerchick, E. H.	Lawton	1
Cotton	Baker, G. W.	Walters	None		
Craig	McPike, Lloyd	Vinita	None		
Creek	Shryock, L. F.	Sapulpa	Shryock, L. F.	Sapulpa	1
Custer	Cushman, H. R.	Clinton	None		
Delware	Prowell, J. W.	Kansas	Gray, James K.	Tahlequah	4
Dewey	Seba, W. E.	Leedy	None		
Ellis	Beam, J. P.	Arnett	Murray, F. L.	Arnett	2
Garfield	Rempel, P. H.	Enid	None		
Garvin	Monroe, H. H.	Pauls Valley	None		
Grady	Renegar, J. F.	Tuttle	None		
Grant	Hardy, I. V.	Medford	None		
Greer	Lowe, J. T.	Mangum	None		
Harmon	Lynch, R. H.	Hollis	None		
Harper	Winchell, F. Z.	Buffalo		Woodward	2
Haskell	Rumley, J. C.	Stigler	None		
Hughes	Floyd, W. E.	Holdenville	None		
Jackson	Spears, C. G.	Altus	None		
Jefferson	Derr, J. I.	Waurika	Highfill, F. W.	Duncan	2
Johnston	Looney, J. T.	Tishomingo	Joseph, Phillip	Madill	3
Kay	Gardner, C. C.	Ponca City	None		
Kingfisher	Meredith, A. O.	Kingfisher	Meredith, A. O.	Kingfisher	1
Kiowa	Watkins, B. H.	Hobart	None		
Latimer	Harris, J. M.	Wilburton	None		
LeFlore	Wright, R. L.	Poteau	Wright, R. L.	Poteau	1
Lincoln	Norwood, F. H.	Prague	None		
Logan	Anderson, R. W.	Guthrie	Anderson, R. W.	Guthrie	1
Love	Gray, W. J.	Marietta	Joseph, Phillip	Madill	3
McClain	McCurdy, W. C.	Purcell		Purcell	1
McCurtain	Williams, R. D.	Idabel	Gregg, O. R.	Hugo	2
McIntosh	Little, D. E.	Eufaula	None		
Major	Johnson, B. F.	Fairview	None		
Marshall	Holland, J. L.	Madill	Joseph, Phillip	Madill	3
Mayes	Brown, J. W.	Pryor	Brown, J. W.	Pryor	1
Murray	Slover, G. W.	Sulphur	None		
Muskogee	William P. Parker	Muskogee		Muskogee	1
Noble	Frances, J. W.	Perry	None		
Nowata	Roberts, S. P.	Nowata	None		
Okfuskee	Spickard, L. J.	Okemah	None		
Oklahoma	Hunter, George	Okla. City	Hunter, George	Okla. City	1
Okmulgee	Peter, M. L.	Okmulgee	Peter, M. L.	Okmulgee	1
Osage	Aaron, Wm. H.	Pawhuska	None		
Ottawa	Hughes, A. R.	Miami	None		
Pawnee	Jones, R. E.	Pawnee	None		
Payne	Moore, C. W.	Stillwater	Moore, C. W.	Stillwater	1
Pittsburg	Dorrough, J.	McAlester	None		
Pontotoc	Mayes, R. H.	Ada	Mayes, R. H.	Ada	1
Pottawatomie	Haygood, C. W.	Shawnee	Haygood, C. W.	Shawnee	1
Pushmataha	Patterson, E. S.	Antlers	None		
Roger Mills	Cary, W. S.	Reydon	Murray, F. L.	Arnett	2
Rogers			None		
Seminole	Shanholtz, M. I.	Wewoka	Shanholtz, M. I.	Wewoka	1

County	Superintendent	Address	Director Of County Unit Or District	Address	No. of Counties In Organized Unit Or District
Sequoyah	Newlin, W. H.	Sallisaw	Gray, James K.	Tahlequah	4
Stephens	Highfill, F. W.	Duncan	Highfill, F. W.	Duncan	2
Texas	Lee, Daniel S.	Guymon	Nicholson, J. L.	Guymon	3
Tillman	Childers, J. E.	Frederick	None		
Tulsa	Presson, L. C.	Tulsa	None		
Wagoner	Riddle, R. K.	Coweta	None		
Washington	Shipman, W. H.	Bartlesville	None		
Washita	Weaver, E. S.	Cordell	None		
Woods	Templin, O. E.	Alva	None		
Woodward	Rutherford, V. M.	Woodward			2

Management of Cancer

The underlying principle of the modern management of cancer is coordinated team work. It is improbable that any one man can perform all the duties and carry out all the techniques required. Any organization that sets itself up to manage cancer must contain at least a surgeon, a roentgenologists and a pathologist. This is the minimum requirement in personnel. There should also be added to the group an internist to advise concerning the diagnosis of cancer in deeper organs, and specialists who devote attention to each particular part of the body for advice in connection with tumors in special locations. It would be well also to have on such a team a chemist and a physiologist. These could offer many helpful suggestions concerning special features of this disease. Each member of the team should have equal standing. Each should be considered as a consultant who is able to add something to the full understanding of cancer and to its management in any particular patient.—James P. Simonds, M.D., Chicago, Ill., Med. Jour., Vol. 81, No. 5.

Opportunities for Practice

An excellent opportunity for practice at Wetumka, Oklahoma, a town of 2500 population in Hughes county, has been reported to the office of the Association. Anyone interested in locating there and establishing a practice should communicate with Mr. Don C. Wright, Secretary, Chamber of Commerce, Wetumka.

A capable, well-trained physicinn in good health ineligible for military service is wanted to take charge of a well-established practice in a completely equipped office. No investment is required. For further information contact Nathan Horowitz, M.D., 2715 Jensen Drive, Houston, Texas.

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BOOK REVIEWS

"The chief glory of every people arises from its authors."—Dr. Samuel Johnson.

"THE MODERN ATTACK ON TUBERCULOSIS." Henry D. Chadwick, M.D., and Alton S. Pope, M.D. Cloth. Pp. 95. The Commonwealth Fund, 41 East Fifty-Seventh Street, New York. Price $1.00.

This little volume of 95 pages constitutes a veritable compendium of the important facts having to do with the control of Tuberculosis. In the preface the Authors disclaim "any pretense of adding to the sum of our knowledge of Tuberculosis" but rather attempt to show that we have sufficient information to eradicate the disease in "a few generations if the established techniques are effectively applied."

In six streamlined chapters, stripped of all unnecessary details, the program proceeds with striking speed and simplicity and yet with the convincing promise of effectiveness.

In the reading, one is impressed with the authenticity and directness which comes only from personal experience supplimented by a profound knowledge of the accumulated experience of those who have gone before.

This valuable work should be read by every doctor and every individual interested in the control of Tuberculosis.—Lewis J. Moorman, M.D.

"STANDARD NOMENCLATURE OF DISEASE AND STANDARD NOMENCLATURE OF OPERATIONS." Edwin P. Jordon, M.D., American Medical Association, 535 North Dearborn Street, Chicago. 1942. Cloth. Pp. 1022.

The Third Edition of this important work presents accumulated knowledge and accepted standards to date.

Following the introduction, there is a short illustrated chapter designed for the instruction of Record Librarians.

One hundred pages are devoted to the Schema of Classification. Approximately 500 pages are devoted to the Nomenclature of Disease. This is followed by supplementary list and an index to the Nomenclature of Disease.

Following the index there is an alphabetical list of Eponymic Diseases. In the latter part of the book the Nomenclature of Operations is similarly treated. This section is also adequately indexed.

This volume should be in every doctors office, on the desk of every hospital record room and in the hands of every Medical Record Librarian.—Lewis J. Moorman, M.D.

"THE BIOLOGICAL ACTION OF THE VITAMINS." E. A. Evans, Jr. Cloth. Pp. 225. The University of Chicago Press, 5750 Ellis Avenue, Chicago, Illinois.

This volume edited by E. A. Evans, Jr., presents the Neutritional knowledge having to do with vitamins in Epitome. Fortunately it comes from the press at a time, when neutritional values are being recognized as of great importance not only by the Medical profession and other scientists but by the laity as well. It is doubtful if anything of equal importance has come into the field of medicine since Pasteur's discovery of the bacterial cause of disease. One cannot read the scientific discussions assembled in this volume without being impressed with the vast amount of laboratory and clinical research, already devoted to this subject, and the tremendous store of accrued knowledge. Much of this knowledge is of practical value as clearly shown by the discussions on clinical application.

It is essential that the members of the medical profession keep abreast of the rapid progress in this field. Because of the present world crisis the average layman is rapidly accumulating knowledge of Neutrition through civilian defense neutrition classes. This growing store of information plus much misinformation about vitamins makes it essential for the average physician to acquire a working knowledge of vitamins and to develope a level vision with reference to their clinical application.

A careful perusal of the works presented in this little book will materially aid in the attainment of these two purposes.

The scope of these discussions may be partially appreciated by a glance at the table of contents. "The Biological Action of The Vitamins", by C. A. Elvehjem, Ph.D.; Cocarboxylase, by S. Ochoa, Ph.D.; Vitamin B: Clinical Aspects, by Norman Jolliffe, M.D.; Riboflavin, by Paul Gyorgy, M.D.; Human Riboflavin Deficiency (Ariboflavinosis), by W. H. Sebrell, M.D.; The Story of Pellagra and Its Treatment with Nicotinic Acid, by Davis T. Smith, M.D.; Pyridoxine, by S. Lepkovsky, Ph.D.; Pantothenic Acid and the Microbiological Approach to the Study, of Vitamins, by Roger J. Williams, Ph.D., D.Sc.; Pantothenic Acid in Human Nutrition, by Edgar S. Gordon, M.D.; Biotin, by Vincent du Vigneaud, Ph.D.; Chlorine, by Wendell H. Griffith, Ph.D.; The Economy of Phosphorus in the Animal Organism, by Franklin C. McLean, Ph.D., M.D.; Vitamin K, by D. W. MacCorquodale, Ph.D.; Vitamin K: Clinical Aspects, by H. P. Smith, M.D., and E. D. Warner, M.D.

Though much has been accomplished and much anticipated from investigations under way, the authors admit that the field lies fallow before them and that the future should bring valuable revelations.—Lewis J. Moorman, M.D.

"THE PREMATURE INFANT." Julius H. Hess, M.D.,Professor and Head of the Department of Pediatrics, University of Illinois College of Medicine, and Evelyn C. Lundeen, R.N., Supervisor, Premature Infant Station, Sarah Morris Hospital, Chicago. Cloth. Price $3.50. Pp. 350, with 77 illustrations. Philadelphia: J. B. Lippincott, 1941.

This book should be in the library of every physician and nurse caring for prematures, in every training school and pediatric ward library, in fact it is a "must" book for every one doing any work with premature infants. The authors are doing out-standing work in

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saving many of these small babies and in training others in their technic. In this book they discuss the physical development, growth of the infant and care both in the home and in the hospital entirely from the angle of the premature rather than the average infant. An important chapter is the one on transporting the baby from the home to the hospital. Every public health nurse should read this very carefully.

The methods of feeding the premature infants are carefully outlined, not only concerning the kind and amount of milk but also the complete procedure. This is something that is too often passed over with little thought, especially in hospitals giving no special care to the prematures.

This book is the most complete and satisfactory available on the premature. It should be available to everyone working with these small infants.—Clark H. Hall, M.D.

"WHITE EAGLE—CHIEF OF THE PONCAS." Charles LeRoy Zimmerman, M.D. Telegraph Press, Harrisburg, Pa. Pp. 273. Cloth. 1941.

Here is an interesting book with attractive format and many photographs and drawings. It is of genuine historic value and contains a wealth of information, not only about the Ponca Indians but about other tribes as well. It is of general interest to all Oklahomans because it is so intimately identified with the people and soil of this section. It is of particular interest to doctors because it is written by a doctor who once lived in Oklahoma and because it contains a chapter on The Medicine Man and a graphic description of his life, on the plains while serving as agency physician for the Poncas. Here again we see the combination of religion, magic and superstition as in primitive medicine.

In addition to treatment of the sick it was the duty of the medicine man to conduct the dances and paint the bodies of warriors before battle. He employed "roots, herbs, barks, twigs, seeds and flowers and some minerals. His treatment was partly mystic and partly medicinal and physical, while his supernatural incantations included in his medicine a bundle of certain sacred objects. He also used sweat or vapor baths made by dropping heated stones in water."

By placing his mouth over parts of the patient's body the evil spirits were sucked out and driven away by the rattling of gourds. The medicine man successfully treated injuries, fractures and wounds. Since the Indians accepted sickness as punishment for sins, their mental conditions usually responded to the medicine man's incantations. In the management of contagious disease they were lost as they knew nothing of isolation and prophylaxis.

Also of Medical interest is the chapter on "Peyote, Its History and Use." And, finally the "Personal Experiences of the Agency Doctor" gives a very good picture of country practice in the "horse and buggy" days.—Lewis J. Moorman, M.D.

Physicians Should Be Alert As Citizens

It is important for medical men and women to remember that the maintenance of high standards of medical practice and service—in unsettled times such as the present—requires that every physician shall not only be a competent Doctor of Medicine but that he and she shall also be high-class citizens, meaning, thereby, that every physician shall take a real interest in trends of a political nature—national, state, and local—and so be on guard against activities that might lead to a breaking down of public health and medical practice standards that have been proven of real value in the past.—California and Western Medicine.

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How One Should Select a Physician

"The Standards by which a physician can be measured are furnished by the medical profession. The way to judge a doctor is the way doctors judge each other. It is severe," Green Williams, Chicago, points out in the June issue of Hygeia, The Health Magazine, in an article enumerating some of the many factors that should be taken into consideration in selecting a physician. "The medical profession has set high standards for its members. . . .

"Let us first consider what we have a right to expect from a man who assumes the responsibility for health and disease. A noted specialist told me that he demands three things from his fellow physicians and surgeons in this order:

"1. Honesty. Faith in one's doctor is often more important to recovery than the treatment he prescribes, but it is false security if the physician is dishonest in his claims, intent, diagnosis, treatment, or fees. . . .

"2. Service. Careful examinations take time. You want a doctor who will give you enough attention to leave the smallest possible likelihood that he has missed some significant sign or symptom, as well as to relieve your psychologic anxieties.

"3. Knowledge. When you see a physician you want everything that is known in medical science about the detection, prevention and cure of your ailment to be brought to bear on your case. Some might place knowledge first, but the specialist put it third because you cannot get the benefit of existing knowledge unless the physician is honest (keeps within the limits of scientific knowledge) and gives you service (allows himself to apply his knowledge)."

To this list of characteristics Mr. Williams says that he would add a fourth quality—generosity. "While this is implicit in the humanitarian nature of medical care," he declares, "I know of no quality more desired by the patient in his doctor.

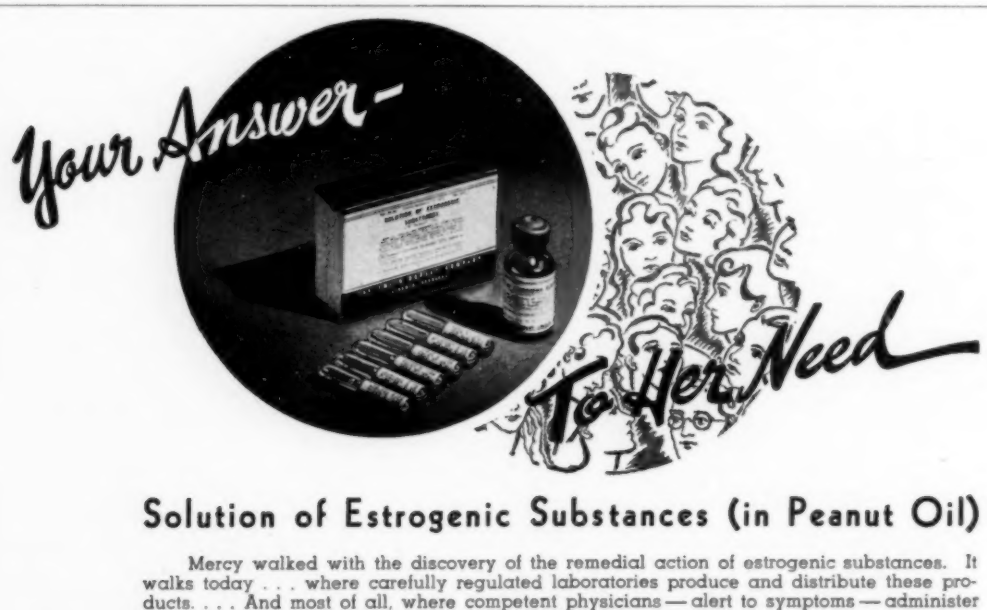
"The basic problem of the cost of medical care is economic, of course, but more patients would get what they can pay for if generosity, like honesty, did not suffer from selfishness. . . ."

In order to be most certain that a physician measuring up to these standards is selected, the author advises that "You should investigate the man you want to become your doctor, using the standards by which the medical profession judges its members.

"First there are the formal standards set by the American Medical Association. . . . The American Medical Association, more than any other agency, must be credited with raising the quality of medical practice in this country. It has set high standards of education, training, and experience for physicians. . . ."

In addition to the formal standards of the American Medical Association, such as graduation from a recognized medical school and membership on the staff of a hospital approved by the American Medical Association, Mr. Williams says that there are additional informal standards by which the physician can be judged. These include lack of advertising on the part of the physician of his name, specialty, methods, cures, or low fees in any commercial way; the dignity sobriety, and modesty with which he conducts himself before his patients; the neatness and cleanliness of his office and of his person; the efficiency with which he keeps his case records, and the amount of respect he receives from other doctors.

"A good doctor," Mr. Williams observes, "will not charge you too much. . . . Always ask the doctor his fees for any medical care he proposes to give you and always tell him your financial status. Doctors' fees are more or less standardized according to the patient's income, and the best is not likely to charge you more than the worst for a given treatment or operation. . . ."



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MEDICAL ABSTRACTS

"TRANSPLANTATION OF FIBULA FOR NONUNION OF TIBIA: REPORT OF CASE." M. S. Henderson and W. H. Bickel. Proceedings Staff Meetings Mayo Clinic. XVI. 510. 1941.

The authors report a case of a compound, comminuted fracture of the left tibia and fibula in the upper third, which was treated outside of the Clinic in 1937. In 1940 the roentgenogram of the left leg revealed a nonunion of an old comminuted fracture of the upper third of the tibia and fibula, with the loss of about one inch of bone, and that the head of the fibula was united by bony fusion to the superior lateral aspect of the tibia.

An osteotomy of the fibula was done, and it was swung against the tibia after the lateral surface had been freshened. It was held there by a Parham band. Five months later the leg felt solid. It was also stated that the Parham band was to be removed after there was solid union.

If there is non-union of the tibia, and the fibula is intact, there are two methods of choice: (1) an autogenous bone graft, (2) Huntington's operation.

Huntington's operation is the transplantation of the fibula to the tibia in two stages, fusing the upper end first.

"THE SEQUELAE TO INJURIES OF THE BONES AND JOINTS." St. J. D. Burton. The Medical Press and Circular. CCV. 376. 1941.

Early undesirable sequelae following injuries may be lessened by operative treatment as soon as shock is relieved, by better immobilization, and limitation of the wound dressings.

Wounds involving the shoulder joint may leave some stiffness, but even with complete bony ankylosis there remains little disability if it occurs in the ideal position (60 degrees abduction, 30 degrees external rotation, and elbow forward).

Elbow wounds frequently result in stiffness. If ankylosis is expected, the forearm and arm should form an angle of 120 degrees. The forearm should not be fixed in complete pronation. About half way between this and complete supination is preferable, and leaves the hand that can be used in most trades.

Hand wounds are always serious. Fingers, if ankylosed, should be in slight flexion.

Hip-joint injuries are always serious. Visceral complications, extensive suppuration, and, with healing, traumatic arthritis or anyklosis usually occur.—E. D. Mc., M.D.

"TREATMENT OF INTRACAPSULAR FRACTURES OF THE FEMORAL NECK." A. S. Blundell Bankard. The Lancet. I. 250. Feb. 28. 1942.

The author does not present a series of cases, but indicates some points which seem to call for further consideration if the Smith-Petersen nail or similar devices are to be placed on a surer basis. In discussing the selection of cases, the author points out several feasible contra-indications for nailing, and in some instances he feels that it is better to do a transtrochanteric osteotomy at once, rather than to wait for the failure of a nailing operation. He recalls that the impacted subcapital abduction fracture always heals with bony union if it is treated in a short walking plaster spica, and he suggests that weight-bearing on an impacted fracture is not in itself harmful, so long as the joint is not moved, and he considers whether this has any bearing on the treatment of abduction fractures after internal fixation. He questions whether, in fact, the nailed abduction fracture should not be treated in the same way as the impacted abduction fracture,—in a short walking plaster spica. When cases unsuitable for nailing have been eliminated, the principal causes of failure are: imperfect reduction of the fracture, faulty application of the nail, and inappropriate after-care. In reducing the fracture, he feels that well-leg counter traction is the best method, as this can be adjusted at leisure, and when the reduction is perfect the patient can be lifted safely on the operating table with the traction still on the limb. In inserting the nail, he points out that the more vertically the nail is placed, the less will be the breaking strain across it, and the more will the proximal fragment be guided towards and pressed against the distal fragment by pressure from above, and he states that the best angle for the nail is one of 140 degrees with the long axis of the shaft of the femur. He points out that a nail can hold fragments apart as well as hold them together. He feels that the common practice of forbidding weight-bearing for some months after the operation while encouraging active movement of the hip should be reconsidered, and he gives reasons for believing that early weight-bearing should be encouraged while movement of the hip should be prevented until bony union has taken place. He outlines his technique for the nailing operation, and points out the importance of anchoring the proximal fragment to the pelvis while the nail is being driven in, in order to avoid displacement of the head by the oncoming nail. The article is most timely and contains many excellent suggestions.

"THE KENNY TREATMENT OF INFANTILE PARALYSIS DURING THE ACUTE STAGE." Philip Lewin. Illinois Medical Journal. LXXXI. 281. April. 1942.

In this article, Dr. Lewin gives a clear and accurate analysis of the Kenny method of treatment, to which he has given study and personal observation in different clinics in which it has been used. He states the principles and the method of application of the treatment, the technique of which he discusses in detail, and makes a fair and unprejudiced estimate of the results obtained. He discusses and interprets the theory of Miss Kenny's method, which is aimed at: the abolition of muscle spasm, the substitution of mental "awareness" for the pathological "alienation," and the restoration of coordination of muscle activity, and includes:

1. Proper bed placement—natural rest position.
2. A foot board to preserve the "standing reflex".
3. Hot fomentations to relieve pain and muscle spasm.
4. Special analysis, classification, and reeducation of muscles.
5. Passive movements.
6. Concentration of active movements on the insertions of muscles and tendons.
7. The abandonment of all splints, respirators, and artificial feeding.

Dr. Lewin's discussion of the theory of muscle spasm, rather than paralysis, is particularly helpful. He expresses a very favorable opinion of the Kenny treatment, as shown by her results, and in his summary he states that it is one of the outstanding advances in orthopaedic surgery.—E. D. Mc., M.D.

"HEMOLYTIC TRANSFUSION REACTIONS. II. PREVENTION, WITH SPECIAL REFERENCE TO A NEW BIOLOGICAL TEST." Alexander S. Wiener, I. Jerome Silverman and William Aronson. American Journal of Clinical Pathology, Volume 12, Number 5, May 1942.

In this the authors have added an additional step in connection with the problem of hemolysis following transfusion in instances where the ordinary cross matching and blood grouping tests have indicated compatibility. The authors insist that the old procedure sponsored particularly by Oehlecker, to inject a small amount of blood, about 10 cc. and then wait ten minutes before proceeding is not satisfactory in the case of hemolysis because clinical symptoms may be entirely absent or occur as long as one hour after the transfusion.

The following so-called biological test has been proposed. It has been used by the author for the past one year in cases in which the possibility of intragroup incompatibility was suspected.

One hundred cc. of the prospective donor's blood are drawn from the patient and divided between two tubes, one empty and the other containing 1 cc. of the citrate solution. Through the same needle 50 cc. of the donor's blood are injected by syringe. After one hour, 10 cc. of the blood are again drawn from the patient and treated in the same way as the pretransfusion sample. The citrated blood samples are centrifuged at once and the color of the plasma in the two tubes compared.

The serums from the clotted blood samples are later separated, after the blood has firmly clotted, this serving as a check on the results of the tests with the citrated blood samples. The purpose of the duplicate test is to avoid the occurrence of an artefact due to traumatization of the red blood cells, particularly when separating the clot from the wall of the tube. Naturally, care must be taken that the needles and syringes used for the test are perfectly dry.

If there is no change in the appearance of the patient's plasma, and the need for blood is urgent, one can then proceed with the transfusion of larger amounts of blood from the same donor. When time permits, however, it is preferable to inject another test dose of 50 cc. of the donor's blood and to draw a third sample of blood after an additional hour. In this way more reliable results can be obtained and the reaction in positive cases is more striking. A further refinement of the test, though this is not essential, is to select a donor who differs from the patient with respect to the M-N type. After 100 cc. of the donor's blood have been injected in the manner outlined above, it should be possible to determine the survival of the donor's cells by the method of differential agglutination where the biological test is negative, in patients having a red cell count of 2.5 million or less, as was previously pointed out.

In positive reactions, one hour after the test-injection of 50 cc. of blood, the patient may have a severe chill and rise in temperature, but the clinical symptoms may be quite mild and occasionally they may be entirely absent. Therefore more reliance is to be placed on the appearance of the patient's plasma, which will show a distinct rise in the icteric index as compared to the pretransfusion sample. Inasmuch as the rise in icteric index from the hemolysis of only 50 cc. of blood is relatively small, the final figure may still be within normal limits, even though it is twice as high as the pre-transfusion value.

The donor's blood used for the biological test should be fresh; if only bank blood is available, no sample more than three days old should be used. The reason for this is that blood stored for periods longer than seven to 10 days, even though apparently intact when transfused, often breaks down rapidly in the patient's circulaton. In this way a positive biological reaction might be obtained even with seriologically compatible blood.

Two cases illustrating a positive and negative result each are reported and the question of multiple sensitization in patients having intragroup hemolytic reactions is discussed.

Comment: This is a very timely and important report. Much attention to the matter of intragroup hemolytic reactions is now being given by clinical pathologists and earnest endeavors are being made to devise tests which are practical and scientifically satisfy for the determination of the Rh and other isoagglutinin properties.—H. J., M.D.

"PRIMARY SPLENIC NEUTROPENIA." A Newly Recognized Syndrome, Closely Related to Congenital Hemolytic Icterus and Essential Thrombocytopenic Purpura. B. K. Wiseman and C. A. Doan. Annals of Internal Medicine, June, 1942, Vol. 16, Number 6, Page 1097.

This is a report of a condition which appears to have been previously unrecognized and in connection with the study of the so-called primary splenic neutropenia the authors have contributed considerable to the mystery and contraversies concerning the physiology of the spleen.

Anatomical facts are reviewed, the reticuloendothelium is discussed and that which appears to be a very ingenuous chart illustrating the function of the spleen is given. Five cases are reported in satisfactory detail.

These studies suggest that splenectomy is a definite indication and has proven to be curative. The condition is not to be confused with Banti's disease since in none of these has there been portal obstruction. The dominant findings are leucopenia, myeloid hyperplasia, hemolytic anemia and thrombocytopenia with splenomegaly. Purpur occasionally develops. Leukemia presents the most difficult differential diagnosis.

"THE CLINICAL VALUE OF STERNAL BONE MARROW PUNCTURE." Theodore H. Mendell, David R. Meranze and Theodore Meranze. Annals of Internal Medicine, June, 1942, Volume 16, Number 6, Page 1180.

The occasion for and the development of the more or less recent widespread application of sternal puncture and bone marrow studies is given. Different methods are mentioned and the results of a "three-fold" study analyzed. The studies are as follows: (1) To determine criteria of normal sternal marrow. (2) To study marrow of all cases showing disorders of the reticulo-endothelial system. (3) To correlate marrow studies with underlying disease. (4) The findings in 115 normal cases are tabulated and interesting reports are made in connection with the study of cases as pernicious anemia, anemia pregnancy, iron deficiency anemias, anemias due to hemorrhage, anemia of thrombocytopenic purpura, anemia in carcinoma, anemia due to sulfanilamide, anemias of infection, aplastic anemia, chronic benzol poisoning, Colley's anemia, polycythemia vera, splenic anemia, leukemia, infectious mononucleosis, amidopyrine granulopenia, multiple myelomata, Hodgkin's disease, trichinosis and malignancy. Negative marrow findings are also discussed.

Conclusions are as follows:

1. Bone marrow puncture is a simple, adequate and safe method of studying the living marrow. It is usable at all age periods and in all disease processes.
2. Bone marrow puncture is of inestimable value in the diagnosis and prognosis of diseases of the blood-forming organs.
3. It is of especial importance in excluding diseases of the blood-forming organs as a diagnostic possibility in many obscure conditions.
4. It provides material for an appraisal of the potentialities of the bone marrow.
5. It should, therefore, be considered as an essential adjunct in the study of any hematologic problem.
6. A series of 300 sternal punctures performed on nearly as many patients over a period of three years, chiefly in diagnostically uncertain cases, is presented to illustrate the above principles.—H. J., M.D.

"FAMILIAL DEGENERATION OF THE MACULA LUTEA. A REVIEW OF THE LITERATURE WITH A REPORT OF EIGHT ADDITIONAL CASES." Joseph William Crawford. San Francisco. American Journal of Ophthalmology, 1942, ser. 3, vol. 25, page 525-543, May.

Familial macular degeneration is the bilateral, symmetrical degeneration of the macular region of the eyes. It affects one or several children of a family, but the parents are usually free of the disease. Only exceptionally is another generation of the family affected. The disease is believed to be congenital, and is familial rather than hereditary in type.

The condition is chronic, manifesting a few signs or symptoms at the onset, and progressing to a serious impairment of central vision, after which it remains stationary. There is little impairment of peripheral vision, and complete blindness never occurs. It is strange that the vision is usually better in a dim light.

The first case has been reported by Knapp in 1870. Later, other cases with definite familial character have been described by Batten, Stargardt, Lutz, Oatman, Stirling, and others.

The ophthalmoscopic picture is that of a localized retinal atrophy limited to the macular region. The early ophthalmoscopic signs indicate an alteration of the retinal pigment. In those in whom the condition had existed for some time there is in each macular area a region, usually horizontally oval, varying in size from 0.75 to 2 dics diameters, having well-demarcated borders, the entire area appearing to be slightly depressed. The background is of a salmon-pink color. In the well-advanced cases in which the depigmentation is complete, the choroidal vessels are exposed.

Scattered about the retina, and extending well beyond the area described, are small, pale, light spots, somewhat resembling drusen in appearance, lying beneath the retinal vessels situated in the deeper retinal layers. These probably represent colloid bodies. Optic atrophy may occur as a secondary manifestation of the retinal degeneration; it has been observed by others. There are no signs of inflammation, exudates, or hemorrhages, and the peripheral retina appears to be normal. The central vision of most patients in reduced to 6/60. Many of the patients are able to read newspaper print if it is held very close to the eyes.

No case has been reported that ended in blindness. In most patients, some central vision is retained, and in all cases normal peripheral vision remains. Vision with reduced illumination is amazingly good, and out of all proportion to the objective signs.

The etiology of the condition has not been determined. Consanguinity, race, the health of the parents, and the like could not be regarded as etiologic factors. The unaffected children in the family differ in no wise from their unfortunate brothers and sisters. The disease should be differentiated from four other conditions: cerebromacular degeneration, retinitis pigmentosa, retinitis punctata albescens, and central choroiditis. There is no successful treatment of this condition. In the author's series the disease appeared before the onset of puberty. —M. D. H., M.D.

"CHEMOTHERAPY IN THE TREATMENT OF GONORRHEAL OPHTHALMIA; RELATIVE EFFECTIVENESS OF SULFANILAMIDE, SULFAPYRIDINE, AND SULFATHIAZOLE." Robert T. Wong. Honolulu. Archives of Ophthalmology, vol. 27, page 670-687, April, 1942.

For the past four years there have been numerous reports published describing the excellent effects of sulfanilamide therapy in gonorrheal ophthalmia. On the other hand, many reports mentioned unsatisfactory results.

The cases included in the author's study are only those in which the diagnosis of gonorrheal ophthalmia was confirmed by the demonstration of gram-negative intracellular diplococci of typical structure and distribution in stained smears of conjunctival secretions or epithelial scrapings.

Various compounds have been used for treating the cases. The dose of sulfanilamide and of sulfapyridine for infants and children was 0.2 gramm per kilogram of body weight per day. For infants the dose of sulfathinzole was 0.3 gramm per kilogram of body weight per day. There were only two adults in the entire series. They were treated with sulfapyridine and were given 4 grammes of the drug daily. The patients treated with sulfapyridine and sulfathiazole were given an initial dose of one-half the daily dose. It was considered best to give enough of the drug to maintain a level in the blood of 5 to 10 mg per 100 cc. Larger doses of sulfathiazole than of sulfanilamide and sulfapyridine were required to maintain an adequate concentration in the blood.

The drug was given at four hour intervals. In the case of infants it was dissolved and administered with the feedings. Alkalis were not given with the drug. The parenteral method of administration was not used. Sulfanilamide was given for three or four days and sulfapyridine and sulfathiazole for one or two days after all evidence of inflammation had subsided and three consecutive daily negative smears had been obtained, in order to forestall any possibility of recurrence.

The routine adjuvant treatment was as follows: (1) irrigations with warm boric acid solution were given often enough to keep the cul-de-sac free of secretion. These were usually done every three hours for the first two or three days and three or four times daily when the discharge began to subside.

(2) Metaphen in a dilution of 1:2,500 (aqueous) was instilled in the cul-de-sac after every irrigation. (3) Foreign protein in the form of sterile milk was administered in some cases but was omitted in others. (4) When corneal involvement was noted, atropine sulfate solution was given in sufficient dose and strength to keep the pupils dilated.

In the sulfathiazole group the only adjuvant treatment was boric acid irrigations three or four times a day for the first or second day and then only once or twice daily for the remaining two or three days of treatment.

The criteria of cure consisted of (1) arrest of discharge and subsidence of the inflammation, (2) obtaining three consecutive daily negative smears of the conjunctival secretion and (3) in the sulfathinzole group obtaining of one negative epithelial smear besides the negative smears of the secretion.

About a week after discharge from the hospital patients were seen again, and examined for evidence of recurrence.

The results of treatment with sulfanilamide are in agreement with those of previous reports. In 18 cases cure was effected within eight days. In two cases the condition was refractory. In one, 28 days of treatment was required, while in the second the cure was effected in 14 days. Such refractoriness is fairly common.

The results of treatment with sulfapyridine indicate that it was more effective than sulfanilamide. On the basis of this study, sulfathiazole seems to be superior to both sulfanilamide and sulfapyridine. In seven striking cases the gonococci disappeared from the secretion within twelve to twenty-four hours after treatment was instituted. In all cases the swelling and inflammation subsided and the discharge lessened within twelve hours. The average time required for cure was three and four-tenths days, and the maximum time was four days.

It can be concluded that sulfathiazole is the compound of choice not only because of its therapeutic efficiency but because of the low incidence of toxic reactions encountered in its use.—M. D. H., M.D.

"OTORHINOGENIC MENINGITIS; A REPORT OF FIFTY-EIGHT CASES." Herman J. Burman, Michael Rosenbluth, and Danial Burman. Chicago. Archives of Otolaryngology, vol. 35, page 687-719, May, 1942.

Meningitis is still the most frequent fatal complication of suppurative disease of the ears and sinuses. In reviewing 160 consecutive cases of meningitis in patients

seen at the Harlem Hospital, the authors found an otorhinogenic focus in 36.2 percent.

Rhinogenic intracranial complications result most frequently during the course of an acute lesion, in contradistinction to otogenic intracranial complications, which are said to occur most often during the course of chronic otitis media.

Infection of the meninges may result when microorganisms enter the arterial stream from the accessory sinuses or the temporal bone, are carried to all parts of the body and are arrested in the small pial arteries. When infection around the veins of the mucosa occurs, bacterial toxins transfuse through the vessel wall and, injuring the endothelial lining of the vessel, produce a thrombus, which becomes infected and advances by retrograde extension to cause meningitis.

Infection of the meninges may take place also through the ductus endolymphaticus, which connects the endolymphatic space of the labyrinth with the dura in the posterior cranial fossa, through the aqueduct of the cochlea. In only a small number of cases can a microscopic lesion in the paranasal sinuses be demonstrated as a probable focus of infection.

Microscopic bony defects, when they occur and produce an avenue for infection, are invariably traumatic in origin and most often result from intranasal operation.

Generally, the diagnosis of meningitis is not difficult because the clinical picture develops fairly rapidly and is rather impressive. In Type III Pneumococcus infection the clinical symptoms may be almost absent. The symptoms are influenced largely by whether actual systemic involvement, limited meningeal irritation or increased intracranial pressure predominates. The disease is frequently ushered in by a feeling of malaise. Headaches are common and are dull and persistent. Postauricular pain is moderate and persistent in cases of otitic origin, and there may be a dull, heavy sensation between the eyes in the case of rhniogenic infection. Transitory severe neuralgias are common, and various palsies of the cranial nerves and labyrinthine disturbances may appear.

When a discharge from the nose or ears has been present it frequently diminishes, although occasionally it may increase in quantity. Impaired hearing and tinnitus are often noted and may be severe. Vision may be impaired and examination of the eyegrounds show evidence of intracranial pressure. The patient may or may not complain of pain in the neck but does not have stiffness of neck until the cisterna magna becomes involved.

Of all the laboratory tests at one's disposal, examination of the spinal fluid is the most important. The type of meningitis present may be suspected from the appearance of the spinal fluid. But a cloudy fluid in itself does not mean generalized meningitis.

With the advent of chemotherapy the outlook in cases of bacterial meningitis has improved in spectacular fashion. The results in the authors' series show a 60 percent rate of cure in cases of otogenic and a 33 percent rate in cases of rhinogenic meningitis. In those cases of bacterial meningitis in which no other focus is apparent the infection should be suspected of emanating from the ear, nose or throat, and all pertinent clinical and laboratory investigations should be made.

Although cures have been reported from the use of chemotherapy alone, the best results have been obtained with the combination of surgical treatment, chemotherapy, and administration of serum in properly selected cases. The drainage of a demonstrable or suspected focus is an accepted surgical principle. The advice that the first symptom of meningitis is the last summons to operate is still an acceptable dictum. Operation should be carried out in every case of meningeal disease in which otologic or rhinologic involvement is suspected.

Intranasal operation on the sinuses in cases of meningitis is not as satisfactory as the external approach and the policy is now adopted of performing the so-called radical ethmo-spheno-frontal sinus operation whenever these sinuses are affected. The mastoid wound should not be left open but filled with sulfanilamide powder.

The efficacy of drug therapy depends largely on the extent of the pneumatization of the mastoid, and this accounts for its relative inefficiency in the treatment of the well ventilated accessory sinuses of the nose, the air cavities permitting the collection of large amount of infected inert exudate.

Because a complication frequently develops suddenly, the protection afforded by chemotherapy should be provided as an initial step in the treatment. The masking of symptoms which occurs with chemotherapy apparently can be interpreted as a desirable effect, indicating a definite limitation of the infectious process. The masking of symptoms by chemotherapy differs from the masking of pain by sedatives inasmuch as the disease itself is actually impeded.

With so many cases of recovery from meningitis, one must guard against presuming that the cure was effected by chemotherapy alone. One is likely to disregard the fact that a focus has been eradicated and surgical drainage established. Therefore, with the admitted benefit to be derived from chemotherapy, the patient is entitled to the additional advantage to be obtained from the elimination of a focus of infection.

It is to be emphasized that when there is bone necrosis, abscess formation or pooling of purulent material in air cavities, sulfanilamide and its derivatives will be ineffective unless the diseased areas are surgically evacuated.

In Pneumococcus meningitis serum may be also used. Such a treatment is always advisable. The specific type rabbit serum in average dose of from 250,000 to 725,000 U.S.P. units is administered intravenously. It may be found eventually that chemotherapy alone, that is without serum, may be equally effective. In influenzal meningitis, sulfanilamide seems to have given the best results. In staphylococcic meningitis, sulfathiazole is the most efficient.—M. D. H., M.D.

"NASOPHARYNGEAL FIBROMA." Hans Brunner, Chicago. Annals of Otology, Rhinology, and Laryngology, vol. 51, page 29-65, March, 1942.

In connection with reporting several cases, the author studies the pathogenesis of these tumors. The tumors originate in the nasopharynx as well as surrounding the choanae, and their matrix is probably the buccopharyngeal fascia. The microscopic picture of the tumors is approximately the same as that of the fascia basalis.

There is no existing treatment which could be called perfect. At present, the treatment consists chiefly of the application of radium and surgical diathermy. This combined treatment offers by far the most satisfactory therapeutic approach. The most important advantage of this type of treatment is the possibility to avoid severe hemorrhages.

The author favors surgery in the following types of cases: (1) in older individuals, (2) in very large tumors. More conservative measures seem to be indicated in the following cases: (1) patients who suffer from a severe hemorrhage in taking biopsy, pointing out the possible difficulties which might arise during an operation; (2) cases which offer a doubtful microscopic finding of biopsy suggesting a sarcomatous degeneration of the tumor; (3) a poor general condition of the patient, which would permit surgery only after a preliminary building-up of the patient; (4) recurrence of the tumor, which can be more readily managed by radium and surgical diathermy, provided it does not reach a considerable size; and (5) sign of intracranial involvement, making the outlook questionable for any form of treatment.—M. D. H., M.D.

KEY TO ABSTRACTORS

E. D. M. ..... **Earl D. McBride, M.D.**
H. J. ..... **Hugh Jeter, M.D.**
M. D. H. ..... **Marvin D. Henley, M.D.**

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Alfalfa	*Jack F. Parsons, Cherokee	L. T. Lancaster, Cherokee	Last Tues. Each 2nd Mo.
Atoka-Coal	J. B. Clark, Coalgate	J. S. Fulton, Atoka	
Beckham	H. K. Speed, Sayre	E. S. Kilpatrick, Elk City	Second Tues. eve.
Blaine	Virginia Olson Curtin, Watonga	W. F. Griffin, Watonga	
Bryan	A. J. Wells, Calera	W. K. Haynie, Durant	Second Tues. eve.
Caddo	Fred L. Patterson, Carnegie	C. B. Sullivan, Carnegie	
Canadian	P. F. Herod, El Reno	A. L. Johnson, El Reno	Subject to call
Carter	Walter Hardy, Ardmore	H. A. Higgins, Ardmore	
Cherokee	Park H. Medearis, Tahlequah	*Isadore Dyer, Tahlequah	
Choctaw	C. H. Hale, Boswell	Fred D. Switzer, Hugo	
Cleveland	Joseph A. Rieger, Norman	Curtis Berry, Norman	Thursday nights
Comanche	George S. Barber, Lawton	W. F. Lewis, Lawton	
Cotton	George W. Baker, Walters	Mollie F. Seism, Walters	Third Friday
Craig	W. R. Marks, Vinita	J. M. McMillan, Vinita	
Creek	Frank Sisler, Bristow	*O. H. Cowart, Bristow	
Custer	Richard M. Burke, Clinton	*W. C. Tisdal, Clinton	Third Thursday
Garfield	D. S. Harris, Drummond	John R. Walker, Enid	Fourth Thursday
Garvin	T. F. Gross, Lindsay	John R. Callaway, Pauls Valley	Wed before 3rd Thurs.
Grady	D. S. Downey, Chickasha	Frank T. Joyce, Chickasha	3rd Thursday
Grant	I. V. Hardy, Medford	E. E. Lawson, Medford	
Greer	G. F. Border, Mangum	J. B. Hollis, Mangum	
Harmon	S. W. Hopkins, Hollis	W. M. Yeargan, Hollis	First Wednesday
Haskell	William Carson, Keota	N. K. Williams, McCurtain	
Hughes	Wm. L. Taylor, Holdenville	Imogene Mayfield, Holdenville	First Friday
Jackson	J. M. Allgood, Altus	*Willard D. Holt, Altus	Last Monday
Jefferson	W. M. Browning, Waurika	J. I. Hollingsworth, Waurika	Second Monday
Kay	J. C. Wagner, Ponca City	J. Holland Howe, Ponca City	Third Thurs.
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Kiowa	J. M. Bonham, Hobart	B. H. Watkins, Hobart	
LeFlore	G. R. Booth, LeFlore	Rush L. Wright, Poteau	
Lincoln	E. F. Hurlbut, Meeker	C. W. Robertson, Chandler	First Wednesday
Logan	William C. Miller, Guthrie	J. L. LeHew, Jr., Guthrie	Last Tuesday evening
Marshall	J. L. Holland, Madill	O. A. Cook, Madill	
Mayes	L. C. White, Adair	V. D. Herrington, Pryor	
McClain	B. W. Slover, Blanchard	R. L. Royster, Purcell	
McCurtain	R. D. Williams, Idabel	R. H. Sherrill, Broken Bow	Fourth Tues. eve.
McIntosh	F. R. First, Checotah	William A. Tolleson, Eufaula	Second Tuesday
Murray	P. V. Annadown, Sulphur	F. E. Sadler, Sulphur	
Muskogee	L. S. McAlister, Muskogee	D. Evelyn Miller, Muskogee	First & Third Mon.
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Okfuskee	J. M. Pemberton, Okemah	L. J. Spickard, Okemah	Second Monday
Oklahoma	R. Q. Goodwin, Okla. City	Wm. E. Eastland, Okla. City	Fourth Tuesday
Okmulgee	J. G. Edwards, Okmulgee	*John R. Cotteral, Henryetta	Second Monday
Osage	C. R. Weirich, Pawhuska	George K. Hemphill, Pawhuska	Second Monday
Ottawa	J. B. Hampton, Commerce	Walter Sanger, Picher	Third Thursday
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Payne	John W. Martin, Cushing	*James D. Martin, Cushing	Third Thursday
Pittsburg	Austin R. Stough, McAlester	Edw. D. Greenberger, McAlester	Third Friday
Pontotoc	R. E. Cowling, Ada	*E. R. Muntz, Ada	First Wednesday
Pottawatomie	John Carson, Shawnee	Clinton Gallaher, Shawnee	First & Third Sat.
Pushmataha	P. B. Rice, Antlers	John S. Lawson, Clayton	
Rogers	*W. A. Howard, Chelsea	George D. Waller, Claremore	First Monday
Seminole	H. M. Reeder, Konawa	Mack I. Shanholtz ,Wewoka	
Stephens	A. J. Weedn, Duncan	W. K. Walker, Marlow	
Texas	L. G. Blackmer, Hooker	*Johnny A. Blue, Guymon	
Tillman	C. C. Allen, Frederick	O. G. Bacon, Frederick	
Tulsa	H. B. Stewart, Tulsa	E. O. Johnson, Tulsa	Second & Fourth Mon. eve.
Wagoner	J. H. Plunkett, Wagoner	H. K. Riddle, Coweta	
Washington-Nowata	*R. W. Rucker, Bartlesville	J. V. Athey, Bartlesville	Second Wednesday
Washita	A. S. Neal, Cordell	James F. McMurry, Sentinel	
Woods	W. F. LaFon, Waynoka	O. E. Templin, Alva	Last Wednesday
Woodward	M. H. Newman, Shattuck	C. W. Tedrowe, Woodward	